

Visitors Guide by:

UNIVERSITY OF ILLINOIS  
**technograph**

Engineering Magazine

**EOH 1999**

**MILLENNIUM  
of  
INNOVATION**

engineering open house

nineteen ninety nine

**1999  
EOH**

nineteen ninety nine

**of**

**MILLENNIUM**

**i n n o v a t i o n**

**ec** Engineering Council  
University of Illinois Urbana-Champaign

**A** Andersen Consulting

**AMD**

**Ford**

**PRINT  
LEXMARK**

**Pratt & Whitney**  
A United Technologies Company

**WOLFRAM  
RESEARCH**



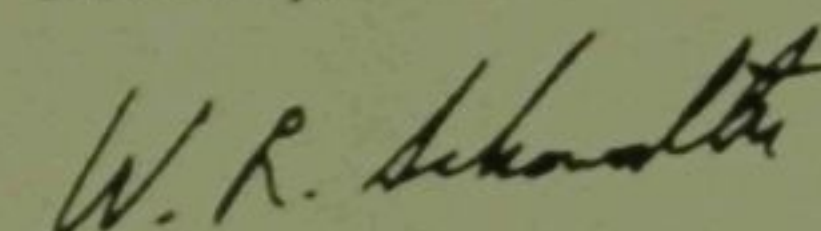
## WELCOME

Dear EOH Visitor,

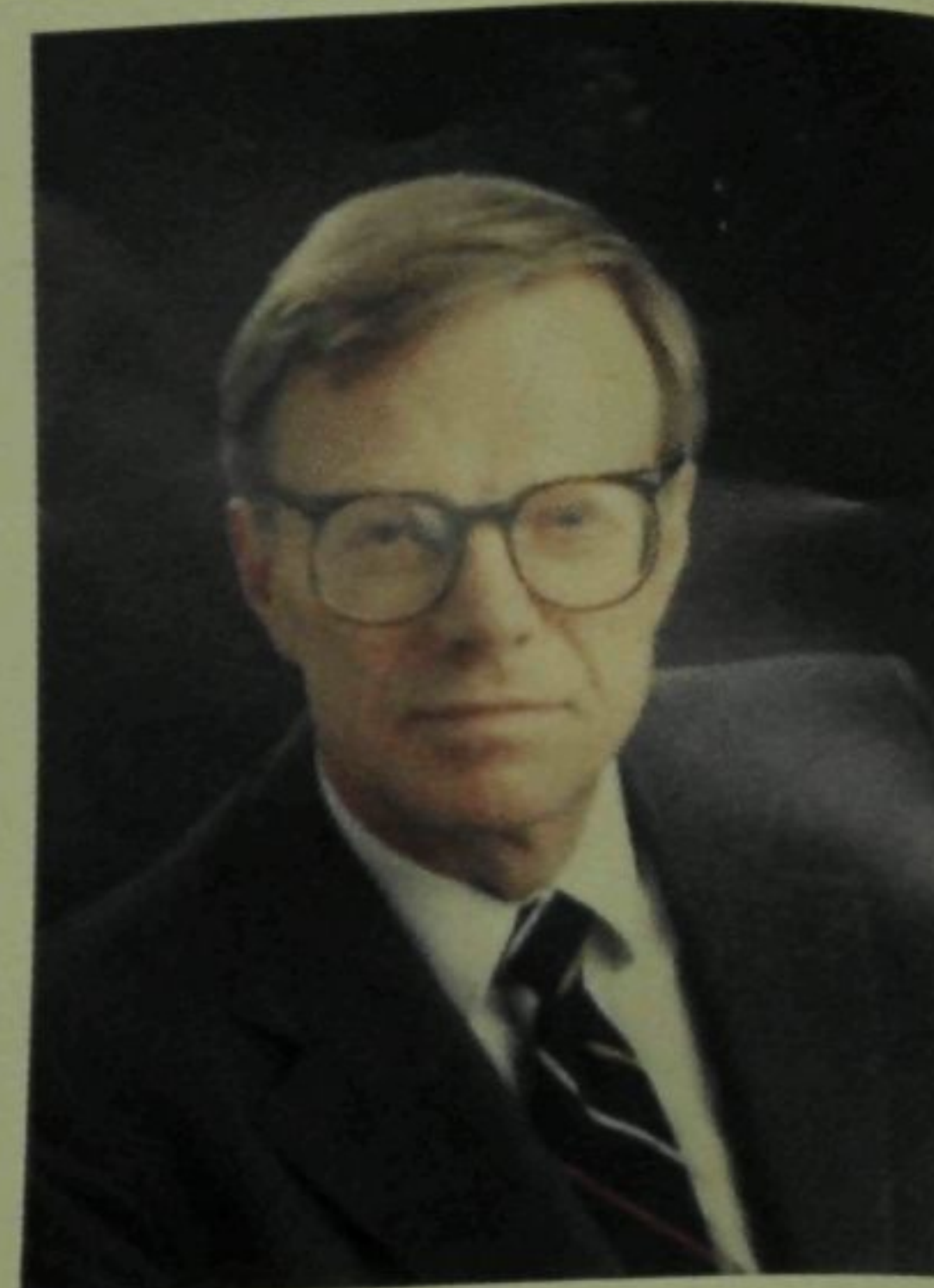
WELCOME to the 1999 Engineering Open House. EOH is an Illinois tradition with a history of nearly 80 years. Each year thousands of visitors gain an appreciation of the benefits of humankind made possible through engineering achievements. From your visit you will acquire a greater understanding of the current state of engineering, and the associated challenges and opportunities that come with an engineering career. Our students hope you enjoy their creations, which are the result of countless hours of diligent work. Through their participation in projects, students are exposed to a level of responsibility, teamwork, and experience that is not possible in conventional classroom settings. Thus EOH is no less an educational exercise for engineering students than it is for visitors.

This year's theme "Millennium of Innovation" seeks to focus upon the advancements that have been made in the past millennium, while looking forward to the next thousand years.

Sincerely,



William R. Schowalter  
Dean of the College of Engineering



## HIGHLIGHTS

## Beckman Institute Open House

There will be a number of demonstrations, displays, and projects available for viewing in the Beckman Institute. These represent all three of the Institute's main research themes: Molecular and Electronic Nanostructures, Human-Computer Intelligent Interaction and Biological Intelligence.

A detailed itinerary and floor plan may be picked up at the reception desk in the Beckman Institute Atrium during the hours of EOH. Many sites can contain only a small number of visitors at a time so plan accordingly.

## W.J. "Jerry" Sanders Creative Design Competition

The W.J. "Jerry" Sanders Creative Design Competition is an annual event attracting contestants from engineering schools across the Midwest. The 1999 year's competition features multi-functional robot vehicles racing each other through a 3-stage obstacle course. Come witness the excitement and see which school can boast this year's winning team. This highlight of the Engineering Open House is sponsored by Advanced Micro Devices and encourages creativity and excellence in engineering.

## Grade School Programs

The Grade School Programs have grown from previous years. The 2nd through 6th grade on-site design will have approximately 800 participants constructing towers from pasta. A new edition this year is the 7th and 8th grade design contest. The students will bring pre-fabricated towers made completely from edible materials. The towers will be tested for how much weight they can support. The Grade School Village will include several new hands-on exhibits meant to ooh and aah the audience. Also included in the GSV is Professor Lenny Pitts Mathmaniacs who will demonstrate several basic Computer and Math concepts to the children. This year's programs are all meant to be fun and exciting. Enjoy!

## INFORMATION

## Visitor Safety

EOH Guests are encouraged to use designated crosswalks for safety. Crossing guards at the Grainger Engineering Library and at Green St. across from the Union will be present to assist in crossings.

In the event of an emergency dial 9-911 if calling from a University phone or dial 911 if calling from a public phone. Or, if you cannot locate a phone, ask an EOH volunteer for assistance.

## Rube Goldberg Machine Contest

Teams of high school students will be competing their Rube Goldberg Machines that must place a golf ball upon a tee in the most complex, creative way imaginable. You'll see physics and engineering principles hard at work in a fun, exciting way. Stop by the Great Hall of the Wesley Foundation (SW corner of Green and Goodwin) on Friday to see their creations and to vote for your favorite machine!

## Illini Engineering Challenge

The Illini Engineering Challenge will feature two projects in Kenny Gym. Friday, visitors will be given the opportunity to design walls to withstand the IEC committee's catapult. On Saturday, a boat building contest will be held and the boat that can hold the most pieces of candy will win.

## Parking and Shuttle Service

Engineering Open House guests are encouraged to park free at University Lot #E-14 located just west of Assembly Hall on the corners of Oak & Kirby. A free shuttle service will transport visitors from the parking lot to the EOH headquarters.

There will also be free shuttle service around the University of Illinois campus. There will be shuttle stops at Kenney Gym Annex, Everitt Lab, Loomis Lab, Chemical & Life Sciences Lab, Plant Sciences Lab (ACES Open House headquarters), Stock Pavillion and Parking Lot #E-14. Shuttles will run from 9am-4pm. Shuttle Routes are detailed on the back, outside cover.

## Area 51

Once again, Area 51 (the big tent between Engineering Hall and Everitt Lab, across the street from the Illini Union) will be the center stage for entertainment during Engineering Open House. Along with various exciting performances and the ever-popular food court, Area 51 is expanding in 1999 to include the showing of a full-feature DVD movie and an all-ages dance on Friday evening!

## Food

Area 51 - Inside the Area 51 tent will be the EOH food court, where guests will be able to sit down and enjoy a meal while viewing the entertainment. Beckman - The Beckman cafeteria will be serving sandwiches, snacks, ice cream and drinks both Friday and Saturday during Open House hours.

## EOH Central Committee

Tom Barich	EOH Director
Clifton Chang	Exhibits Director
Keith Wessel	Facilities Director
Amy Devine	Corporate Director
Chris George	College Design Contest
Brian Pokrzywa	High School Design Contest
Diane Scott	Illini Engineering Challenge
Cheri Sutherland	
Amy Pufahl	Grade School Programs
Ashley Shaw	Judging & Awards
Amit Mathur	Director of Publicity
Kevin Bollman	Entertainment
Joanne Jenne	Traffic & Safety
Anjali Rangaswamy	
Jeong Lee	Treasurer / Secretary
Carol Jackson	Director of Information
Orlando Sellers, Jr. Ph.D.	Advisor

## Technograph Staff

Todd Manchester Layout & Design  
Kevin Anderson Adviser

## CONTENTS

DEAN'S WELCOME	INSIDE COVER
HIGHLIGHTS	INSIDE COVER
INFORMATION	INSIDE COVER
RECURRING EVENTS	2
PROJECT LISTING BY DISCIPLINE	4
PROJECT DESCRIPTIONS	
AGRICULTURAL ENGINEERING SCIENCES BUILDING	8
BECKMAN INSTITUTE	8
DIGITAL COMPUTER LAB	8
EVERITT LAB	10
KENNEY GYM	13
LOOMIS LAB	14
MECHANICAL ENGINEERING BUILDING	19
METALLURGY AND MINING BUILDING	21
NEWMARK LAB	23
ROGER ADAMS LAB	24
TALBOT LAB	27

## What the Symbols Mean

- 🍎 Young Explorers Exhibit
- ♦ High School Projects

## Special Thanks to:

Kay Kappes, Hedi Pugh, Alberta Nelson & the staff of 315 Ceramics  
Dean Schowalter & Dean Pershing  
Paul Bunting and the O&M staff  
Mary Reyes and FP&M staff  
Randy Ervin & Amy Bosshart  
Bonnie Irwin & Richard Maul  
Prof. Ruth Anne Clark  
Captain Kallmayer & the Campus Police

Dave Powell & Kathy Reeves from the WYSE office  
Dave Baurac - Argonne National Laboratory  
AMD  
TIS Copyshop  
Engineering Council  
Technograph



## RECURRING EVENTS

**Beckman Cafe**  
**Beckman Institute**  
 Friday 8 AM - 3 PM  
 Saturday 9 AM - 2 PM

**Build Something Out of Nothing**  
 Mechanical Engineering Building, Room 135  
 Demonstrations every half hour

**Car Crusher**  
 Talbot Lab, Crane Bay  
 Three time daily.

**Cutting-Edge Technology: Industrial Engineering at Work**  
 Mechanical Engineering Building, Room 101  
 Demonstrations every half hour

**"The Dream is Alive"**  
 Talbot Lab, Room 104  
 Film shown every 45 minutes

**Electricity and Magnetism Demos**  
 Loomis Lab, Lobby  
 Explanations every 15 minutes

**Grade School Demos**  
 Illini Union, Rooms ABC Friday until 2:30pm

**Jr High Design Competition**  
 Illini Union, Rooms ABC Friday until 2pm

**High School Rube Goldberg Machine Contest**  
 Wesley Foundation, Great hall  
 General Competition Friday 10am-3:30pm  
 Judging Friday 10:30am-2pm  
 Awards Friday 3pm

**The Neon Project: Getting it Done**  
 Everitt Lab, Room 246  
 Play-off contests every 30 minutes Friday and Saturday

## DEMOS RUNNING CONTINUOUSLY

**3D Drunk Driving Simulator**  
 Digital Computing Lab, Atrium  
**Bandit**  
 Digital Computing Lab, Atrium  
**Bubble Maker**  
 Loomis Lab, Room 139  
**Chemistry for Kids**  
 Roger Adams Lab, Room 8  
**Concrete Cylinder Smash**  
 Newmark Lab, Crane Bay  
**The Concrete Canoe Project**  
 Newmark Lab, Crane Bay  
**Fun with Chemistry**  
 Roger Adams Lab  
**Fun with Transistors**  
 Metallurgy and Mining Building  
**Hovercraft II**  
 Field south of Beckman Institute  
**Liquid Nitrogen Demonstration**  
 Loomis Lab, Lobby  
**Magna Golf**  
 Loomis Lab, Lobby  
**Newton's Cradle**  
 Loomis Lab, Lobby

**Lecture Demos**  
 Loomis Lab, Room 141  
 Demonstrations every hour on the hour

**Materials Show**  
 Metallurgy and Mining Building  
 Demonstrations every hour on the hour

**The Mechanics of Martial Arts Board Breaking**  
 Talbot Lab

**Physics Machine**  
 Loomis Lab, Lobby  
 Demonstrations every half hour

**SimSomthing...Simulation as an engineering tool**  
 Mechanical Engineering Building, Room 153  
 Demonstrations every half hour

**"Stiffy" the Air Muscle Octopod**  
 Everitt Lab, Room 168  
 Friday 11am, 1pm, and 3pm.  
 Saturday 11am, 1pm, and 3pm.

**SWE EOH Breakfast**  
 Mechanical Engineering Building, Room 153  
 Friday 8am-11am

**W.J. "Jerry" Sanders Creative Design Competition Schedule**  
 Kenny Gym  
 Regular Rounds Friday 9am-6pm  
 Saturday 9am-11am

Quarterfinals Saturday 11am-12pm  
 Semifinal and Final Rounds Saturday 1pm-2pm  
 Demolition Rounds Saturday 2pm-3:30pm

**NOBCCHE: Bubble Gum Production**  
 Roger Adams Lab, Room 8

**Paper Airplane Efficiency**  
 Mechanical Engineering Building, Room 153

**Pinewood Derby Race**  
 Mechanical Engineering Building, Room 101

**Plastic Injection Molding**  
 Roger Adams Lab

**Pressure**  
 Roger Adams Lab

**Soda-Pop Production**  
 Roger Adams Lab

**Soap Bubbles and Films**  
 Talbot Lab, Room 103

**Sounds and Visions**  
 Digital Computing Lab, Atrium

**Spacecraft Model Building**  
 Loomis Lab, Lobby

**Space Shooter Targeting System and Embedded OS Design**  
 Digital Computing Lab, Atrium

**Tesla Coil**  
 Loomis Lab

**The Ultimate Student Desk**  
 Everitt Lab, Room 241



# Murphy's Pub

ESTABLISHED 1969

Carryout...352-7275

**Bacon Cheeseburger.....2.55**

swiss, american, or cheddar

**Hamburger.....1.95**

with lettuce, tomato, mayo & grilled onion

**Cheeseburger.....2.27**

swiss, american, or cheddar

**Ground Turkey Cheeseburger.....2.92**

swiss, american, or cheddar

**Garden Burger.....3.43**

**Rib Eye Steak Sandwich.....4.50**

**Hoagie Steak Sandwich.....2.92**

**Teriyaki Chicken Sandwich.....3.94**

**Grilled Turkey Tenderloin.....3.76**

light barbecue flavor

**Grilled Pork Chop Sandwich.....3.62**

plain, barbecue or cajun style

**daily**

**specials**

**mon Mushroom burger.....4.00**

with french fries

**tue Turkey Burger .....4.00**

with french fries

**wed Bacon MEGA- .....4.00**

Cheeseburger with french fries

**thu Teriyaki Chicken.....4.00**

with french fries

**fri 1/4 lb. Bacon Cheeseburger...4.00**

with french fries and cole slaw

**sat Mushroom MEGA-.....4.00**

Cheeseburger with french fries

**sun Free Fries..with any sandwich**

**Murphy's-Voted one of Champaign-Urbana's number one bars and restaurants cordially invites you to try the Best Burgers and famous sandwiches in the Big Ten, and don't forget to try our Fresh Cut Fries!**

**Bacon MEGA-Cheeseburger.....3.62**

swiss, american, or cheddar

**MEGA-Burger.....3.06**

**MEGA-Cheeseburger.....3.34**

swiss, american, or cheddar

**Beer Battered Chicken Tenders.....3.85**

with honey mustard or BBQ sauce

**Italian Beef Sandwich.....4.22**

with pepperoncinis and chips

**Bratwurst & Sauerkraut.....2.60**

**Polish Sausage.....2.60**

**Fish Sandwich.....3.20**

deep fried with tartar sauce

**Fish-n-Chips & Cole Slaw.....4.78**

**Cheese Sandwich.....2.09**

**\*Fresh cut fries with any sandwich.....1.07**

**extras**

Swiss, American or Cheddar on any sandwich.....37

Bacon on any sandwich.....51

Mushrooms & gravy on any sandwich.....79

**sides**

French Fries..... reg. 2.13

small 1.30

Onion Rings..... reg. 2.13

small 1.30

Soup..... 2.13

**deli sandwiches.....3.25**

Served with potato chips and dill pickle on whole wheat, rye, sour dough, or kaiser roll.

**Chicken Salad • Sliced Turkey • Tuna Salad**

**Free Fresh-Cut Fries**  
 w/any Sandwich Purchased

Save \$1.07

Expires June 1999

cut and keep



## PROJECT LISTING BY DISCIPLINE

Discipline/Project	Presenter	Location	Discipline/Project	Presenter	Location
<b>Aeronautical and Astronautical Engineering</b>			<b>Electrical Engineering</b>		
"The Dream is Alive" ♦♦	AIAA	104 Talbot	Advances in Power: Solar Cells ♦	UIMS	Met&Min
AIAA R/C Aircraft			Environmentally Friendly Electricity ♦♦	ANS	Loomis
Design/Build/Fly competition ♦♦	AIAA	9 Talbot	Fun with Transistors ♦	UIMS	Met&Min
Cetan "Hawk Spirit":			Microelectronic Fabrication in	AICHe	RAL
Human-Powered Hydrofoil ♦♦	SAMPE	5 Talbot	the Chemical Engineering Profession ♦	SAE	101 & 102 MEB
Hovercraft II ♦♦	Society of Inventors	Field south of Beckman	Mini Formula Racecars ♦♦	SAE	101 MEB
Liquids in Space:			Pinewood Derby Race ♦♦	TBP	245 Everitt
Flow Characteristics of Immiscible Fluids ♦♦	Float'n Illini	Loomis	Robotic Eyes ♦♦	SAE	AESB
Race Car Downforce ♦♦	Liao & Soso	104 Talbot	SAE Mini-Baja	Ben Wild	Everitt
Spacecraft Model Building ♦	ISDS	Loomis	Shower Genie ♦	ADSL	260 Everitt
			"Stuffy" the Air Muscle Octopod ♦♦	SWE	153 MEB
<b>Bioengineering</b>			Telephone Technology ♦	Society of Inventors	Loomis
Adventures in Bioenvironmental Engineering	EMBS	168 Everitt	Tesla Coil ♦	IEEE	151 Everitt
Bionic Man	EMBS	168 Everitt	Two Implementations of MP3 Music Players ♦♦		
DNA Chips	EMBS	169 Everitt			
EMBS Display	EMBS	165 Everitt	<b>Mechanics / Theoretical and Applied Mechanics</b>		
Gene Therapy	EMBS	169 Everitt	Car Crusher ♦♦	SEM	Talbot
Heart Surgeries	EMBS	170 Everitt	Soap Bubbles and Films ♦♦	SEM	103 Talbot
Issues in Bioethics	EMBS	170 Everitt	TAM TOYS ♦♦	SEM	220 Talbot
Laser Buffet ♦♦	EMBS	245 Everitt	The Mechanics of		
Magnetic Resonance Imaging	EMBS	170 Everitt	Martial Arts Board Breaking ♦♦	SEM	Talbot
Molecular Modeling	EMBS	170 Everitt			
Progress of Instruments	EMBS	163 Everitt	<b>General Engineering</b>		
Rehabilitation Innovations	EMBS	163 Everitt	Mini Formula Racecars ♦♦	SAE	101 & 102 MEB
Sports Medicine	EMBS	168 Everitt	Pinewood Derby Race ♦♦	SAE	Met&Min
Temperature and the Human Body	EMBS	168 Everitt	SAE Mini-Baja	SAE	AESB
The Future of Bioengineering	EMBS	163 Everitt			
The Latest in Biomaterials	EMBS	169 Everitt	<b>Industrial Engineering</b>		
The Locomotion	EMBS	169 Everitt	Cutting-Edge Technology:		
Biomechanics and Body Movement	EMBS	169 Everitt	Industrial Engineering at Work ♦	IIE	153 MEB
			Paper Airplane Efficiency ♦	IIE	153 MEB
<b>Chemical Sciences / Chemical Engineering</b>			Portable Touch Type Keyboard	SWE	153 MEB
Chemical Kinetics ♦	AICHe	RAL	SimSomething...Simulation as an Engineering Tool	IIE	153 MEB
Chemistry for Kids	NOBCChE	8 RAL			
Coriolis Flowmeter Technology ♦	AICHe	RAL	<b>MATSE</b>		
Does Size Really Matter?			Advances in Power: Solar Cells ♦	UIMS	Met&Min
A Two-Fold Look at Process Engineering	AICHe	RAL	Advances in Sporting Goods ♦	UIMS	Met&Min
Fat-Free or Full of Flavor? ♦	AICHe	RAL	Aerogel - Cutting edge insulation ♦	UIMS	Met&Min
FIT Fruit Wash:			Biomaterials ♦	UIMS	Met&Min
A Complete Organic Experience! ♦♦	AICHe	RAL	Blast Furnace ♦	UIMS	Met&Min
Fluid Fun ♦♦	AICHe	RAL	Ceramic Coasters ♦♦	Keramos	Met&Min
From Fields to Fuel ♦	AICHe	RAL	Fun with Transistors ♦	UIMS	Met&Min
Fun with Chemistry ♦♦	AICHe	RAL	Liquids in Space:		
Gasoline Production ♦♦	AICHe	RAL	Flow Characteristics of Immiscible Fluids ♦♦	Float'n Illini	Loomis
Gogurt: The Portable Yogurt ♦♦	AICHe	RAL	Materials Show ♦♦	UIMS	Met&Min
How Film Works ♦♦	AICHe	RAL	Shape Memory Alloys ♦	UIMS	Met&Min
Microelectronic Fabrication in					
the Chemical Engineering Profession	AICHe	RAL	<b>Mechanical Engineering</b>		
NOBCChE No. 1 - Perfume Production	NOBCChE	8 RAL	Building Something Out of Nothing ♦	ASME	135 MEB
NOBCChE - Bubble Gum Production ♦♦	NOBCChE	8 RAL	Environmentally Friendly Electricity ♦♦	ANS	Loomis
Plastic Injection Molding ♦♦	AICHe	RAL	Excalibur ♦	Konrad & Valluzzi	135 MEB
Pressure ♦♦	AICHe	RAL	Fun with Fins ♦♦	PTS	135 MEB
Refrigeration Display ♦♦	NOBCChE	8 RAL	Grainger Library Exposed! ♦♦	ASHRAE	135 MEB
Soda-Pop Production ♦♦	AICHe	RAL	Hovercraft II ♦♦	Society of Inventors	Field south of Beckman
The Effects of Surfactants in Everyday Life ♦♦	AICHe	RAL	Mini Formula Racecars ♦♦	SAE	101 & 102 MEB
Wafer Fabrication ♦	AICHe	RAL	Pinewood Derby Race ♦♦	SAE	Met&Min
			Portable Touch Type Keyboard	SWE	153 MEB
<b>Civil Engineering</b>			Robotic Eyes ♦♦	TBP	245 Everitt
ASCE: Passport to the 21st Century	ASME	Newmark	SAE Mini-Baja	SAE	AESB
Civ-E's and E-Q's	ASCE	Newmark	Visible Stirling Engine ♦	ASME	135 MEB
The Concrete Canoe Project	ASCE	Newmark			
Mini Formula Racecars ♦♦	SAE	101 & 102 MEB	<b>Multidisciplinary</b>		
Quicksand	ASCE	Newmark	Boston's Big Dig	ITE	Newmark
The Steel Bridge Project	ASCE	Newmark	Cars of the Future (What do you think?) ♦♦	FutureCar	101 MEB
			Concrete Cylinder Smash ♦♦	AGC	Newmark
<b>Computer Engineering / Computer Science</b>			The Ultimate Student Desk ♦♦	EFC	241 Everitt
3D Drunk Driving Simulator ♦♦	ACM	DCL	University of Illinois Surayce		
Bandit ♦	ACM	DCL	Solar Racing team ♦♦	James Liao	MEB
DASH-16 Driver ♦	ACM	DCL	W.J. "Jerry" Sanders		
Excalibur ♦	Konrad & Valluzzi	135 MEB	Creative Design Competition" ♦♦	AMD	Kenny Gym
How we make music ♦♦	ACM	DCL			
Mac OS Network					
Speech-Aware Gaming Environment ♦♦	ACM	DCL			
Multiuser True Physics Engine ♦♦	ACM	DCL			
Portable Touch Type Keyboard	SWE	153 MEB			
ProjectX ♦♦	ACM	DCL			
Say Cheese ♦♦	ACM	DCL			
Scrolling Signs ♦♦	ACM	DCL			
Sounds and Visions ♦♦	ACM	DCL			
Space Shooter Targeting					
System and Embedded OS Design ♦	ACM	DCL			
Telephone Technology ♦	SWE	153 MEB			

# DESPERATE

JANUARY SNOW BLIZZARDS HAVE LEFT US WITH A HORRIBLE CASH FLOW AND INVENTORY CRISIS. DUE TO OUR GRAVE AND SERIOUS SITUATION WE ARE FORCED TO LIQUIDATE MERCHANDISE THIS WEEK AT UNHEARD OF PRICES. THIS OFFER MAY BE TERMINATED AT ANY TIME WITHOUT NOTICE.

## BUY ONE, GET X23

# 5 FREE!

ON EVERY SINGLE ILLINOIS LONGSLEEVE TEE! OR BUY ANY LONGSLEEVE TEE OR HEAVY COTTON SWEATSHIRT AND: TAKE ANY 5 OF THE FOLLOWING FREE!

- LONGSLEEVE T-SHIRTS • T-SHIRTS • ALL HATS • FITTED WOOL HATS •
- POCKETED COTTON SHORTS • FLANNEL BOXER SHORTS • BABYDOLL T-SHIRTS •
- RINGER T-SHIRTS • KIDS T-SHIRTS • KIDS LONGSLEEVE T-SHIRTS •
- COTTON SHORTS • TANK TOPS • SWEAT SHORTS •

OFFER WILL  
END WITHOUT  
NOTICE!

**STEVE & BARRY'S**  
UNIVERSITY  
SPORTSWEAR

617 E. GREEN STREET  
• 367-7366 •  
OPEN 7 DAYS

ADDITIONAL CHARGE FOR XXL OR 2-SIDED PRINTS



## PROJECT LISTING BY DISCIPLINE

CONTINUED

Discipline/Project	Presenter	Location
<b>Nuclear Engineering</b>		
"From the Atomic Bomb to the Moon" ♦♦	ANS	Loomis
An Introduction to Radiation ♦	ANS	141 Loomis
Environmentally Friendly Electricity ♦♦	ANS	Loomis
Neutron Background Reduction for WATS ♦	ANS	Loomis
Neutronics Demonstration ♦	ANS	Loomis
<b>Nuclear Propulsion:</b>		
Getting More Miles Per Gallon ♦	ANS	Loomis near 151
Plasma Speakers ♦♦	ANS	Loomis
Space Nuclear Propulsion ♦	ISDS	Loomis
<b>Physics</b>		
An Introduction to Radiation ♦	ANS	141 Loomis
Bubble Maker ♦	Physics Society	139 Loomis
Clinostat ♦	ISDS	Loomis
Electricity and Magnetism Demos ♦	Physics Society	Loomis
Holography Exhibit ♦	Physics Society	139 Loomis
Hot Air Balloon ♦♦	Physics Society	Loomis
Hovercraft II ♦♦	Society of Inventors	Field south of Beckman
Hoverplates ♦	Physics Society	Loomis
Illini Space Development Society Table ♦	ISDS	Loomis
Lecture Demos ♦♦	Physics Society	Loomis
Liquid Nitrogen Demonstration ♦	Physics Society	141 Loomis
Magna Golf ♦♦	Physics Society	Loomis
Newton's Cradle ♦♦	Physics Society	Loomis
Physics Machine ♦♦	Physics Society	Loomis
Plasma Speakers ♦♦	ANS	Loomis
Tesla Coil ♦	Society of Inventors	Loomis
Undergraduate Research Projects ♦	Physics Society	143 Loomis

## What the Symbols Mean

- ♦ Young Explorers Exhibit
- ♦♦ High School Projects

EOH 1999

# ZORBA'S

627 E. Green St.  
campus town  
since 1973

Home of  
America's  
Favorite  
Gyros



## PITA SANDWICHES

CLASSIC GYROS (80% beef 20% lamb) served with tomato, onion, and cucumber sauce.

Giant \$5.10 Large \$4.45 Medium \$3.75 Small \$2.99

CHICKEN GYROS served with tomato, onion, lettuce and honey Dijon sauce.

Giant \$5.10 Large \$4.45 Medium \$3.75 Small \$2.99

FRIED CHICKEN SANDWICH Large \$4.49 Small \$3.05

GRILLED CHICKEN SANDWICH Large \$4.25 Small \$2.99

CHICKEN FAJITA SANDWICH Large \$4.49 Small \$3.05

TURKEY & SWISS SANDWICH \$3.50

VEGEE It's salad on a pita! Choose from all out fresh vegetables and add honey dijon, cucumber sauce, or V&O dressing. \$1.99

Add any of these vegetables to any Zorba's sandwich at no extra charge: Tomatoes, Onions, Lettuce, Spinach, Green Peppers, Olives, Pickles, Cucumbers, Jalapenos.

## SALAD CENTER

T. Marzetti's Salad Dressings: Blue Cheese, Buttermilk Ranch, Thousand Island, Fat Free Ranch.

CREATE YOUR OWN SALAD	\$2.50
GREEK SALAD	\$2.50
ATHENIAN SALAD	\$3.49
GRILLED or FRIED CHICKEN SALAD	\$3.49
SIDE SALAD	\$1.25
PASTA SALAD	\$2.50

## SIDE ORDERS

Fries	big basket \$3.30	basket \$2.25	side \$1.15
Onion Rings		basket \$2.70	side \$1.35
Fried Mushrooms		basket \$2.70	
Homemade Chili	bowl \$2.65	cup \$1.35	
Soup of the day	bowl \$2.75	cup \$1.40	

# JAZZ

Thursdays  
at 9:30  
p.m.



Call for  
schedules

627 E. Green St. • Campustown • 344-0710  
<http://www.zorbas.com>

# GROOVY ZORBA'S

- 1/2 price fries
- \$1 veggies
- \$1 off classic gyros
- vegetarian chili

MILLENNIUM  
of  
INNOVATION

Now Celebrating  
our 50<sup>th</sup> year in  
Student Housing

The only privately owned  
residence hall near...

- Engineering Campus
- Computer Science
- Beckman Institute

# HENDRICK HOUSE

<http://www.hendrickhouse.com>

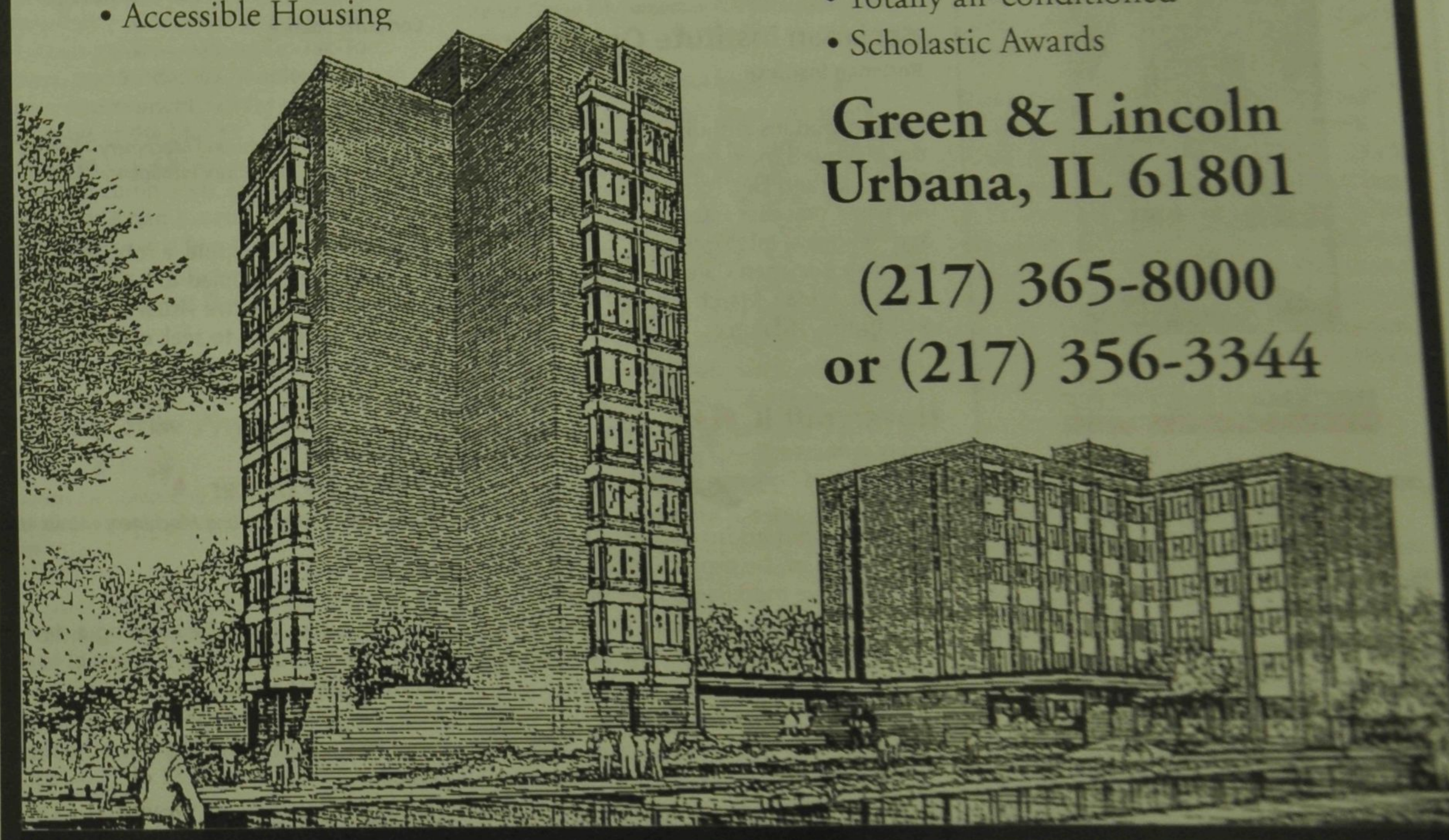
Offering Private Ethernet Connections  
Via Fiber to the Internet

- Campus-wide acclaimed meals
- Carpeted rooms/semi-private baths
- Fully Equipped Exercise Room
- Optional Services: Parking and Cable
- Accessible Housing

- Computer Lab
- Bicycle Room
- Free local telephone
- Weekly maid service
- Totally air-conditioned
- Scholastic Awards

Green & Lincoln  
Urbana, IL 61801

(217) 365-8000  
or (217) 356-3344



UNLEASH THE GENIUS  
IN YOUR FUTURE.

Come Visit  
Our Booth In DCL!

Check out the 3rd Annual Illini  
Programming Contest in 1310 DCL

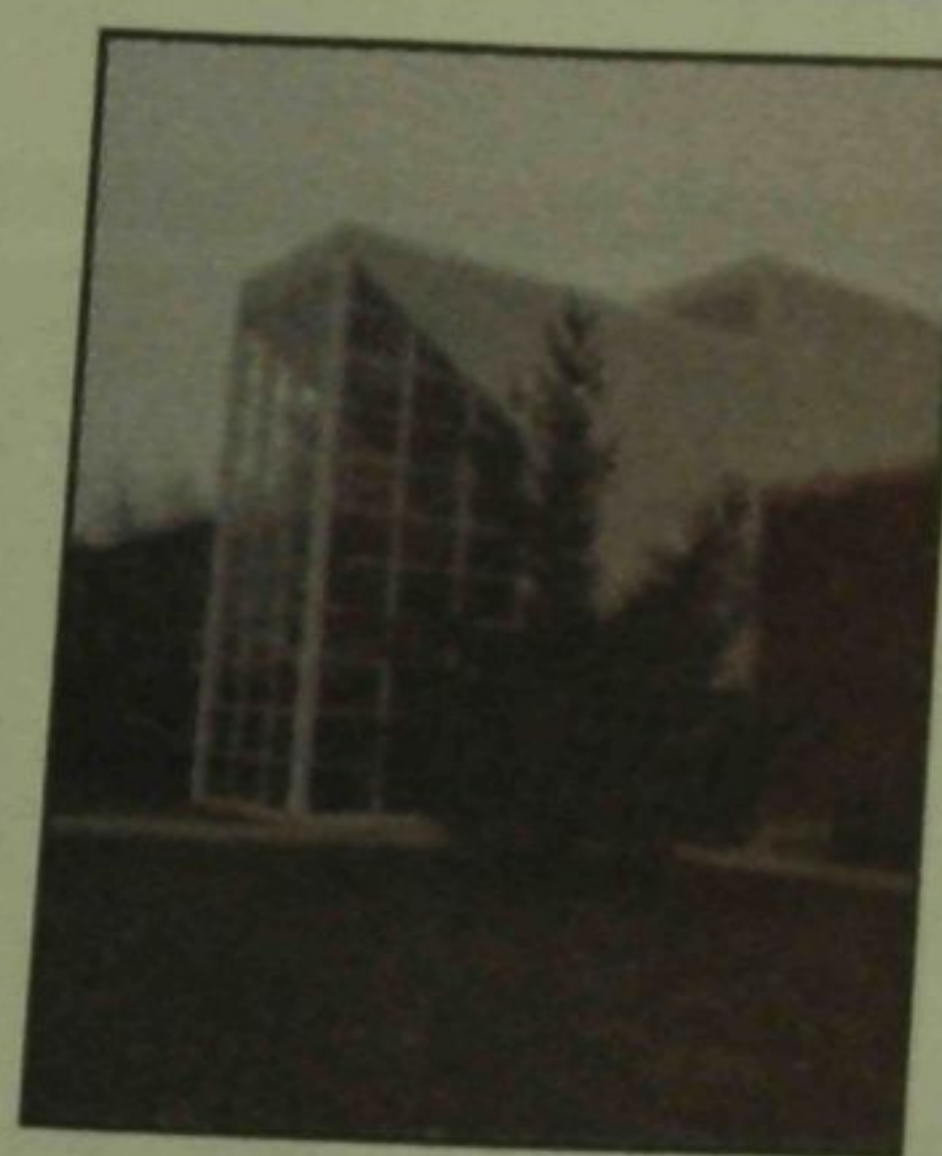
Sponsored by Crowe Chizek and ACM

Watch Students Compete for  
\$1,000 in Prize Money!

CROWE CHIZEK

[www.crowechizek.com/scgreruit](http://www.crowechizek.com/scgreruit)



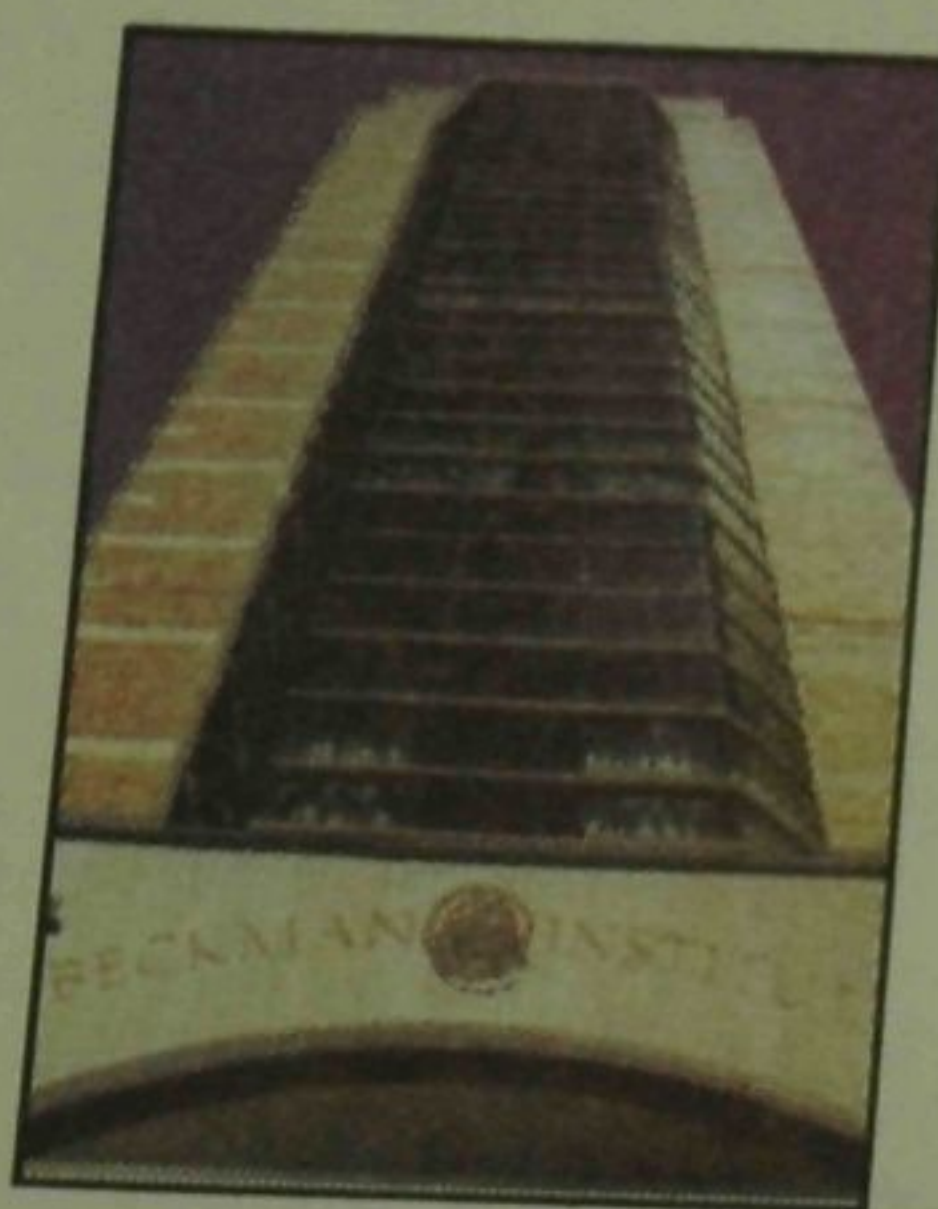


### AGRICULTURAL ENGINEERING SCIENCES BUILDING

**Location:** 1304 W. Pennsylvania  
Urbana

**Map Code:** A

The Agricultural Engineering Sciences Building is home to the Agricultural Engineering Department and the Department of Food Sciences.



### BECKMAN INSTITUTE

**Location:** 405 N. Mathews  
Urbana

**Map Code:** B

Beckman Institute for Advanced Science and Technology is the largest academic building on campus and anchors the far end of the north campus.

### AGRICULTURAL ENGINEERING SCIENCES BUILDING

#### Mini-Baja

*Society of Automotive Engineers (SAE) Mini-Baja 1st floor*

A four-wheel, single seat, off-road recreational vehicle will be on display. The off-road vehicles are student conceived, designed and fabricated.

*Mechanical, Electrical, General, and Agricultural Engineering*

### BECKMAN INSTITUTE

#### Beckman Institute Open House

Beckman Institute

Demonstrations and displays representing the Institute's main research areas: Molecular and Electronic Nanostructures, Human-Computer Intelligent Interaction, and Biological Intelligence.

The new Beckman Cafe will be open 8 AM - 3 PM on Friday, March 5 and 9 AM - 2 PM on Saturday, March 6.

#### Hovercraft II

*Society of Inventors  
Field South of Beckman Institute*

A fully autonomous hovercraft. This is a modification of the project presented last year. We have modified the air duct for increased efficiency, replaced the skirt, strengthened the undercarriage, and added a charging system.

*Physics, Mechanical Engineering, and Aerodynamics*

### DIGITAL COMPUTER LAB

#### 3D Drunk Driving Simulator

*Association for Computing Machinery - Windows Programming Group (WinDevils)  
Atrium*

You're checking out the EOH displays Looking at atoms made of clay We have something just as fun You'll want to hurry up and run Our 3D Drunk Driving simulator is sublime Come play the game — it beats this rhyme.  
*Computer Science*

#### The 3D Integrated Development Environment

*Association for Computing Machinery - Special Interest Group for Virtual Reality (SigVR)  
Atrium*

Software development tools over the last several years have evolved to include integrated debuggers and other visual tools. The 3D Integrated Development Environment (IDE) is designed to show the usefulness of 3D graphics in software development, especially code visualization. The 3D IDE is built using VRML, the Virtual Reality Modeling Language, and ActiveX controls from PLATINUM technology.

*Computer Science*

#### Bandit

*Association for Computing Machinery - Special Interest Group in Artificial Intelligence (SigArt)  
Atrium*

SigArt presents Grapple, a robotic humanoid arm coupled to a camera. Grapple uses negative visual feedback and genetic algorithms to seek out and grab objects in its field of view.

*Computer Science*

#### DASH-16 driver

*Association for Computing Machinery - Linux Users Group (LUG)  
Atrium*

Description: LUG will be creating a device driver for inclusion in the 2.2 kernel to support the DASH-16 A/D data acquisition card. We will also do some demos using input to the card when we have the driver done.

*Computer Science*

#### How we make the music

*Association for Computing Machinery - Special Interest Group for Music (SigMusic)  
Atrium*

SigMusic is going to do a project. Category is going to be "Just For the fun of it". We are going to show an audience how we make our music and probably show off some new musical tools that we've written.

*Computer Science*

#### The Jason project

*Association for Computing Machinery - Be Users Group (BUG)  
Atrium*

BUG will be writing software to interface with a handheld GPS receiver. The software will gather a variety of statistical information, and allow the user to display it a variety of formats.

*Computer Science*

#### Mac OS Network Speech-Aware Gaming Environment

*Association for Computing Machinery - Macintosh Users Group (MacWarriors)  
Atrium*

MacWarriors' project this year, titled "Mac OS Network Speech-Aware Gaming Environment", will consist of a number of well-known games—such as Tic-Tac-Toe, Checkers, and Battleship—implemented in a unique environment. Using out-of-the-box features of the Mac OS, we'll create a set of games that can be played entirely with spoken commands, using the desktop and icons for a game board and pieces. We'll also throw in a few interesting features like distributed/network processing and statistics updated "live" to the Internet.

*Computer Science*

#### Multiuser True Physics Engine

*Association for Computing Machinery - Special Interest Group for Graphics (SigGraph)  
Atrium*

The physics engine for our networked computer game correctly simulates the motion of projectiles and elastic collisions relying on precomputed oriented bounding box tree data structures. This also taught members about basic computer game construction.

*Computer Science*

#### ProjectX

*Association for Computing Machinery - Special Interest Group for Software Development (SigSoft)  
Atrium*

ProjectX is a real time strategy game much like Starcraft or Age of Empires. It is set in the future where large computers named LU-9000 handle most of the world's jobs. These computers, being so underworked, have decided to start attacking each other to take over its tasks. In the end only one can achieve the bliss of 100% utilization.

*Computer Science*

#### Say Cheese

*Association for Computing Machinery - Special Interest Group for BioComputing (SigBio)  
Atrium*

Facial recognition will be implemented and applied with a program that will use a camera and a video capture card to take images of a user attempting login and then authenticate or reject that person. Methodologies suggested to accomplish this include pixel comparisons or vector geometries verified with those in a database, hash table, or text file.

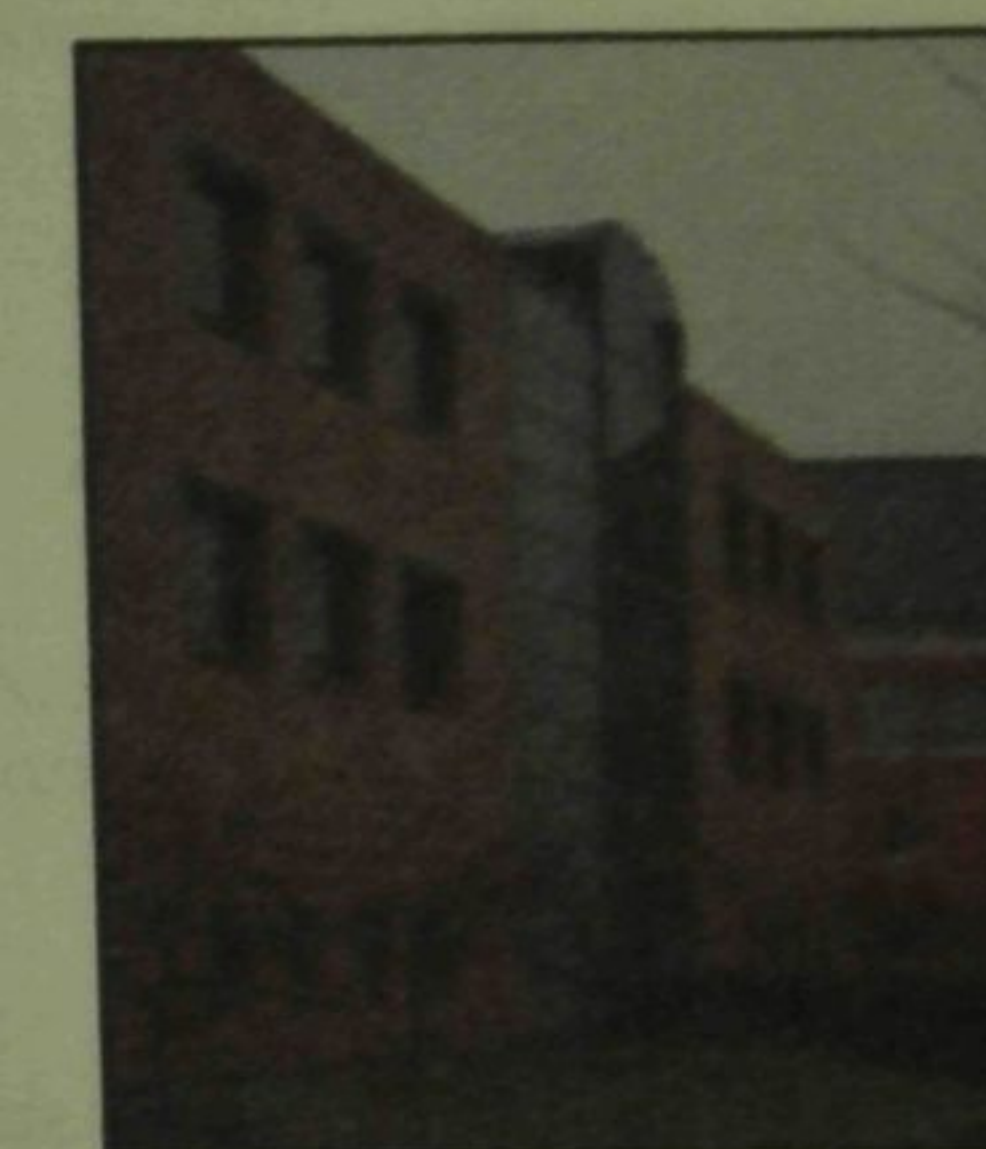
*Computer Science*

#### The SigArch Computer Architecture

*Association for Computing Machinery - Special Interest Group for Computer Architecture (SigArch)  
Atrium*

Some groups write their own software. Some groups write their own compilers. One group writes their own operating systems. Only one group, though, will define their own computer architecture. We'll design of the instruction set. We'll implementation of the processor. We'll integrate it into a graphical system. We'll write the assemblers, compilers, and operating systems. We'll put the whole thing on the net. And to top it all off, we'll write some killer apps the demonstrate the power of our home-grown computational giant. For a long time now a project like this has been in the dreams of every SigArch member, and now that everyone has a critical mass of experience, the flood doors are opening, ushering in a new era of EOH projects. Ideas for the processor itself range from a sleek and peppy Reduces Instruction Set (RISC) design, to a Very Long Instruction Word (VLIW) computational powerhouse. We're just now seeing the ideas come together, and hopefully this custom computing platform will be a starting point for many future projects.

*Computer Science and Electrical and Computer Engineering*



### DIGITAL COMPUTER LAB

**Location:** 1304 W. Springfield  
Urbana

**Map Code:** C

The Digital Computer Laboratory Building is home to the Department of Computer Science and the Computing and Communications Services Office.

#### Scrolling Sign

*Association for Computing Machinery - Special Interest Group for Computer Architecture (SigArch)  
Atrium*

SigArch will be making a graphical sign. It's an improvement on the traditional scrolling LED sign. This one will be 21x50 LEDs and capable of displaying anything from the traditional scrolling text and interesting transitions, to full blown animation sequences. It will all be controlled through a JAVA applet on our web page — just type in your message or draw your animation, hit the button, and instantly it's displayed for all of DCL to see.

*Computer Science*

#### Sounds and Visions

*Association for Computing Machinery - Special Interest Group for Music (SigMusic) and Special Interest Group for Graphics (SigGraph)  
Atrium*

Sounds and Visions is a student-run computer graphics and computer music concert. In 1320 DCL we will be showing popular previous year's shows.

*Computer Science*



## DIGITAL COMPUTER LAB

continued

## Space Shooter Targeting System and Embedded OS Design. ♦

Association for Computing Machinery - Special Interest Group for Operating Systems (SigOps)  
Atrium

Space Shooter Targeting System and Embedded OS Design. SigOps is the special interest group at UIUC dedicated to Operating System Design. The Space Shooter Targeting System consists of a color camera that guides autonomously an electronic turret with a laser pointer and allow a human to simply illuminate the target with laser light and the targeting system will target the point and shoot. To implement this we will be designing an embedded operating system to control the movement and the targeting system.

Computer Science

## UNIX GUI's ♦♦

Association for Computing Machinery - Special Interest Group for UNIX (SigUNIX)  
Atrium

SIGUNIX plans to create a demonstration of a modern UNIX GUI desktop system; part of this will include a demonstration of a modular graphical monitoring system, and the uses such a system can provide.

Computer Science

## Voodoo City ♦♦

Association for Computing Machinery - Special Interest Group for Networking (SigNet)  
Atrium

Voodoo City, an online, net-based, java-powered gaming site, incorporating chat and game all in one, will be extended as a net meeting place with all new games and a brand new chat client.

Computer Science

## EVERITT LAB

## Adventures in Bioenvironmental Engineering

Engineering in Medicine and Biology Society (EMBS)  
Room 168

See how we can improve the quality of our air, food and our relationship between man and his surroundings through the use of computers and technology.

Bioengineering

## Biomechanics and Body Movement

Engineering in Medicine and Biology Society (EMBS)  
Room 169

Discover how impact forces travel throughout the body and how artificial devices and limbs can successfully replicate the motions of the body.

Bioengineering

## Bionic Man

Engineering in Medicine and Biology Society (EMBS)  
Room 168

Recent advances have made it possible to make artificial organs, limbs and other body parts. Watch them all come together to make a bionic man.

Bioengineering

## DNA Chips

Engineering in Medicine and Biology Society (EMBS)  
Room 169

DNA chips are a new technology that will enable geneticists to easily analyze DNA sequences.

Bioengineering

## EMBS Display

Engineering in Medicine and Biology Society (EMBS)  
Room 165

Discover what the Engineering in Medicine and Biology Society is all about!

Bioengineering

## The Future of Bioengineering

Engineering in Medicine and Biology Society (EMBS)  
Room 163

Find out about what topics are currently being researched and what may become possible in the near future

Bioengineering

## Gene Therapy

Engineering in Medicine and Biology Society (EMBS)  
Room 169

Find out how recent advances in a new field called gene therapy can fix hereditary diseases and even determine the sex of a child before it is born.

Bioengineering

## Heart Surgeries

Engineering in Medicine and Biology Society (EMBS)  
Room 170

Learn about man-made heart pumps and valves, pacemakers and the surgical equipment and procedures used in different open heart surgeries.

Bioengineering

## Issues in Bioethics

Engineering in Medicine and Biology Society (EMBS)  
Room 170

Learn about the latest controversies surrounding hot topics such as genetic counseling, cloning, and animal testing.

Bioengineering

## Laser Buffet ♦♦

Tau Beta Pi (TBP)  
Room 245

Commercial dye lasers use the same dyes that are found in foods such as Kool-Aid and Jello. Any food product that has a dye in it and is transparent can be made to emit light.

Electrical Engineering

## The Latest in Biomaterials

Engineering in Medicine and Biology Society (EMBS)  
Room 169

Discover how different materials such as metals, ceramics and polymers can successfully play the role for the damaged tissues in your body.

Bioengineering

## The Locomotion

Engineering in Medicine and Biology Society (EMBS)  
Room 169

Discover how impact forces travel throughout the body and how artificial devices and limbs can successfully replicate the motions of the body.

Bioengineering

## Magnetic Resonance Imaging

Engineering in Medicine and Biology Society (EMBS)  
Room 170

See the latest development in MRI technology and view the wide range of its applications.

Bioengineering

## Molecular Modeling

Engineering in Medicine and Biology Society (EMBS)  
Room 170

See the latest technology in molecular modeling. See how computer simulations can benefit different industries including medicine.

Bioengineering



EVERITT LAB

Location: 1406 W. Green  
Urbana

Map Code: D

Everitt Laboratory is home to the Department of Electrical and Computer Engineering.

## The Neon Project: Getting it Done ♦♦

Mike and Tim Stall  
Room 246

The Neon Project is the completion of an arcade-action computer product, architected using C++. A 3D computer interactive demonstration, and a user-friendly interface, makes everyone welcome. Play-off contests every half-hour.

Computer Engineering and Computer Science

## Progress of Instruments

Engineering in Medicine and Biology Society (EMBS)  
Room 163

See how research and medical instruments have developed throughout the years.

Bioengineering

1989-1999  
MARCH 5TH & 6TH, 1999  
BECKMAN INSTITUTE  
10 YEARS

BECKMAN INSTITUTE  
FOR ADVANCED SCIENCE AND TECHNOLOGY

405 North Mathews Avenue, Urbana, IL 61801  
(on University between Mathews and Wright Street)

Open House hours:  
Friday, March 5, 9:00 AM to 4:00 PM  
Saturday, March 6, 9:00 AM to 3:00 PM

The new Beckman Cafe will be serving during  
the Open House at the following times:  
Friday: 8:00 AM to 3:00 PM □ Saturday: 9:00 AM to 2:00 PM

The Beckman Institute officially opened its doors in April 1989. Come to the 1999 Open House and see some of the exciting progress that has been made during our first decade! Visit a wide range of displays including:

ROBOTS □ AN "INTELLIGENT" HEARING AID □ "BUGSCOPE" □  
FLIGHT SIMULATION □ STATE-OF-THE-ART MICROSCOPES □  
FUNCTIONAL MRI □ A PERSONALIZED RESTAURANT FINDER □  
EYE TRACKING □ AND MUCH, MUCH MORE. . .



**EVERITT LAB***continued***Rehabilitation Innovations***Engineering in Medicine and Biology Society (EMBS)  
Room 163*

Learn how rehabilitative equipment such as wheelchairs and prosthetics can improve the quality of life for those with disabilities.  
*Bioengineering*

**Robotic Eyes** ♦♦*Tau Beta Pi (TBP)  
Room 245*

TBP has constructed an air-hockey playing robot that you can challenge! This robot combines image processing and control techniques that allow the robot to see the air-hockey puck and to make intelligent, real time defensive decisions.  
*Electrical and Mechanical Engineering*

**Shower Genie** ♦*Ben Wild  
1st Floor hall*

The Shower Genie is an automatic water temperature control for showering. The user interface consists of a keypad and a display. The user enters a desired water temperature, and with the push of a button water will be turned on and temperature will be set.

*Electrical Engineering***Sports Medicine***Engineering in Medicine and Biology Society (EMBS)  
Room 168*

Find out about the causes and treatments for many of the common and prevalent sports related injuries

*Bioengineering***"Stiffy" the Air Muscle****Octopod** ♦♦*Advanced Digital Systems Laboratory (ADSL)  
Room 260*

Eight legged walking robot using air muscles for motion control.

*Electrical Engineering, Robotics***Temperature and the Human Body***Engineering in Medicine and Biology Society (EMBS)  
Room 168*

Learn how controlling the body's temperature can aid in medical processes as well as the new ways you can protect your body from extreme temperatures.

*Bioengineering***EOH 1999****Two Implementations of MP3 Music Players** ♦♦*Institute of Electronics and Electrical Engineers  
(IEEE) SigDSP  
Room 151*

Two implementations of MP3 music players, one built on a computer card for inside a computer, and one as a stand-alone device on a computer network playing music that is located on another computer.

*Electrical and Computer Engineering***The Ultimate Student Desk** ♦*Engineering Council's Engineering Freshman  
Committee (EFC)  
Room 241*

Have you ever imagined what the ideal engineering student's desk would look like? Well, come see our version and watch some demonstrations of what it can do.

*Multidisciplinary***KENNEY GYM****W.J. "Jerry" Sanders Creative Design Competition** ♦♦*AMD*

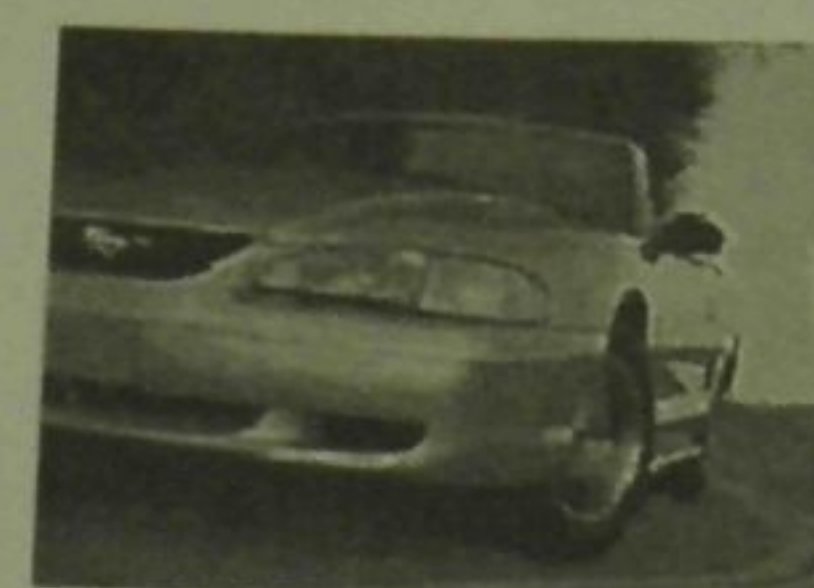
The W.J. "Jerry" Sanders Creative Design Competition is an annual event attracting contestants from engineering schools across the Midwest. The 1999 year's competition features multi-functional robot vehicles racing each other through a 3-stage obstacle course. Come witness the excitement and see which school can boast this year's winning team. This highlight of the Engineering Open House is sponsored by Advanced Micro Devices and encourages creativity and excellence in engineering.

*Multidisciplinary***KENNEY GYM**

**Location:** 1406 W. Springfield  
Urbana

**Map Code:** X

The H. E. Kenney Gymnasium is one of the oldest buildings on campus. Kenney is currently the home of the University's Women's and Men's varsity gymnastic teams.

**Coming to the University of Illinois...***The World Is Too Big To Go Unexplored.***MARK YOUR CALENDARS!**

March 5 - Grade School Design Competition  
Mechanical Engineering Building

March 5 and 6 - Ford Representatives, Engineering Displays,  
and Vehicle Displays  
Mechanical Eng Bldg, Auto Lab

For additional information or to submit questions, e-mail: [ILLINOIS@ford.com](mailto:ILLINOIS@ford.com)

**WELCOME ENGINEERS!****15% OFF ALL REGULAR PRICED MERCHANDISE**

with this ad. March 5th and 6th, 1999 only. Excludes Textbooks, CD's & Computer products.

**SPRING SALE - 25%-75% OFF**

various merchandise and software. Going on now thru March 31st.

**FOLLETT**  
[energy squared]

Corner of Wright & Green Streets  
356-1368 - [efollett.com](http://efollett.com)

Open: M-F 8-9, Sat. 9-6 & Sun. 10-6

Shop from home on-line at:

**e follett.com**

**Champion • Nike • Adidas • Jansport • Calvin Klein • H2O • CD's • and more.**





LOOMIS LAB

**Location:** 104 S. Goodwin  
Urbana

**Map Code:** F

The Loomis Laboratory of Physics is home to the Department of Physics.

### LOOMIS LAB

#### Bubble Maker

Physics Society  
Room 139

Hands on fun making a variety of bubble shapes along with explanations of the basic physics principles that make bubbles possible. It's geared towards children 12 and under, but open to all.

Physics

#### Clinostat

Illini Space Development Society (ISDS)  
Lobby

See how centripetal acceleration can be used to create g-forces that correspond to conditions on Mars or the Moon. The effective g-forces will fool the plants into acting as if they were on another planet.

Biology and Physics

### EOH 1999

#### Electricity and Magnetism

##### Demos

Physics Society  
Lobby

A superconducting levitating train, jacob's ladder and several other demonstrations of electricity and magnetism are exhibited.

Physics

#### Environmentally Friendly Electricity

Bernard Ramos, American Nuclear Society (ANS)  
East-west hallway at the north end

This project will explain the different ways of producing environmental friendly electricity that are clean, safe, and produce no carbon monoxides. These differing ways are Nuclear, wind, and hydroelectric power.

Electrical, Nuclear, and Mechanical Engineering

# T.I.S. has the lowest textbook prices. Period.



Reserve  
your  
textbooks  
online!

#### MORE USED TEXTBOOKS!

- unimproved, cheaper than new!
- go great with any highlighter!
- work like new, but they're not!

**best price, best selection!**

707 S. Sixth Street • 217.337.4900 • open 7 days a week • [www.tisbook.com](http://www.tisbook.com)

**T.I.S.**  
**COLLEGE BOOKSTORE**

"WHERE EVERYBODY IS SOMEBODY"

**ITW Deltar**

## ENGINEER CAREER OPPORTUNITIES

MANUFACTURING • PRODUCT DEVELOPMENT • SALES/MARKETING

**ITW TekFast**

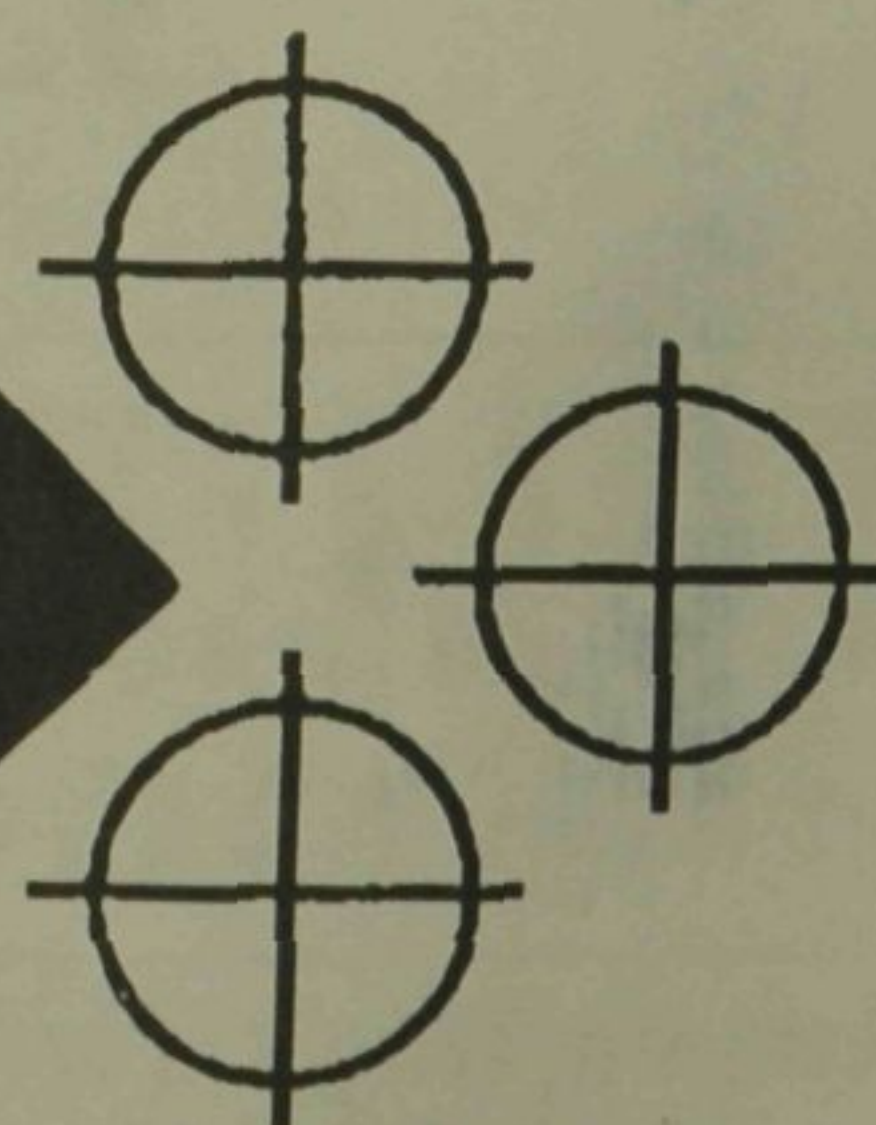
**ITW Engineered Fasteners**

**ITW Engineered Components**

**ITW Release Systems**

**ITW IPAC**

INNOVATION,  
QUALITY,  
EXPERIENCE



**ITW Deltar Businesses**

21555 S. Harlem Avenue, Frankfort, IL 60423 • (708) 720-2600 • Fax (708) 720-2612



## LOOMIS LAB

continued

## "From the Atomic Bomb to the Moon" ♦♦

Shana Browde, American Nuclear Society (ANS)  
East-west hallway at the north end

This project gives a chronological description of the role that the nuclear sciences and engineering have played throughout history. The history and future of nuclear weaponry, space technology, and medical technology are discussed.

Nuclear Engineering

## Holography Exhibit ♦

Physics Society  
Room 139

Several holograms made by undergraduate students in a very simple setup will be displayed. The exhibit shows how any High School student can make their own holograms for under \$70.

Physics

## Hot Air Balloon ♦♦

Physics Society  
South Stairwell

A large mylar balloon is filled with hot air by hair dryers and rises to the fourth floor before returning to be filled again. This demo also features posters that describe the physics principles.

Physics

## Hoverplates ♦

Physics Society  
Lobby

Build your own hovercraft and take it home with you. This hands-on project for children aged 12 and under will show the basic physical principles behind the Society of Inventor's Hovercraft.

Physics

EOH 1999  
Illini Space Development Society Table ♦Illini Space Development Society (ISDS)  
Lobby

It will provide information on a wide variety of space topics and upcoming events in the society. The exhibit features a large poster of the space shuttle in orbit.

Aeronautical Engineering

## An Introduction to Radiation ♦

American Nuclear Society (ANS)  
East-west hallway at the north end

Learn about the different types of radiation, the benefits of nuclear energy, and the meaning of (half-) life. Contains entertaining activities that will safely expose young minds to an often-misunderstood area of science.

Nuclear Engineering and Physics

MILLENNIUM  
of  
INNOVATION  
Lecture Demos ♦♦Physics Society  
Room 141

The demonstrations for introductory physics lectures are displayed for everyone to enjoy. The demonstrations are geared towards high school students and the general public. The explanations are simple, and the demos are fun to watch.

Physics

## Liquids in Space: Flow Characteristics of Immiscible Fluids ♦♦

Float'n Illini  
North Hallway

Microgravity research is an integral part of the space program, and a rapidly expanding multidisciplinary field of science. This project shows benefits of low-gravity experimentation, and presents our equipment for NASA's Reduced Gravity Student Flights.

Aerospace Engineering and Material Science

## Liquid Nitrogen Demonstration ♦

Physics Society  
Lobby

Frozen racket balls, a cannon, shrinking balloons, fragile flowers, a bernoulli beach ball and other demonstrations will be shown by the Physics Van, a group of students that bring exciting physics demos to elementary schools.

Physics

## Magna Golf ♦♦

Physics Society  
Lobby

A putting green with a magnetic golf ball. Try to make a hole in one. It's a very simple, hands-on demo that's fun for everyone.

Physics

## Newton's Cradle ♦♦

Physics Society  
Lobby

Five bowling balls that collide and demonstrate energy transfer between them (the center balls don't move). It's a hands-on exhibit for everyone.

Physics

## Neutron Background Reduction for WATS ♦

Cari Lehner, American Nuclear Society (ANS)  
East-west hallway on the north side of Loomis Lab

The Wide Area Tracking System (WATS) is a plutonium-monitoring scheme that uses helium-3 tubes to detect neutrons and track plutonium movement. This project involves reducing neutron background signal to improve performance of the system. Research was conducted at the Lawrence Livermore National Laboratory.

Nuclear Engineering

Voted the Best Restaurant  
in  
Champaign-Urbana  
by the annual Campus Picks Contest...

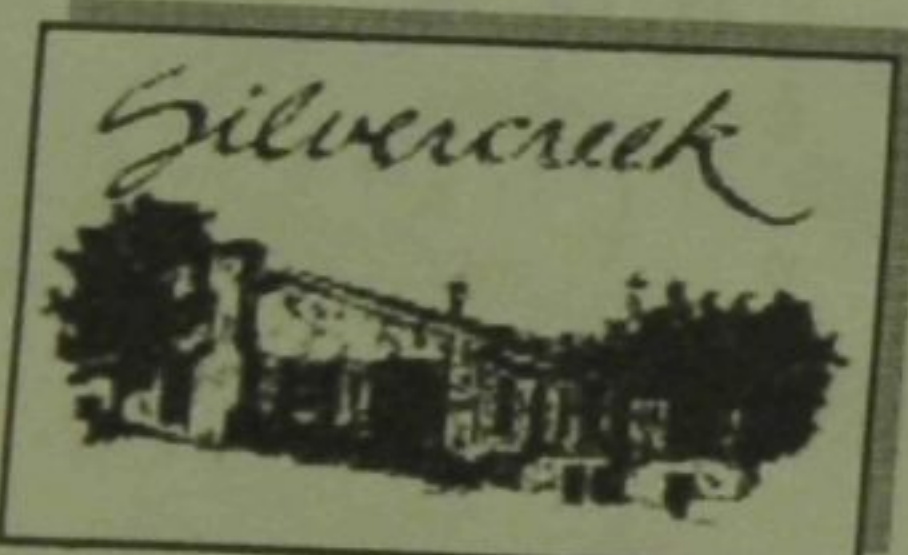


Welcome EOH  
participants!

328-1811 • 111 N. Race, Urbana

LANDMARKS FOR GREAT FOOD!

Come experience the best in Fine Dining!



402 N. Race, Urbana  
328-3402

## Extreme Engineering!



Are you interested in cutting-edge engineering technology and web services? SoMat is the place for you! We are a world-class producer of data acquisition equipment, software and online services for test engineers. Our products are used to design state-of-the-art products at companies including Ford, GM, Boeing, Harley-Davidson, Rock Shox, JPL, and many others. Our hot new web portal, explore.somat.com is the gateway for test engineers. It provides visitors with technology news, events, online shopping and much more.

We are looking for  
individuals with the  
following talents:

- Java
- C++
- Technical Consulting
- Testing
- Software Engineering
- Web Design

**SOMAT**  
www.somat.com

If quality of life, excellent salary and benefits in a fast growing, progressive company interests you, send your resume to: Human Resources, SoMat Corporation, P.O. Box 2998, Champaign, IL 61825; 217-328-5359; fax: 217-328-6576; email: jobs@somat.com.

Please reference the position that interests you.

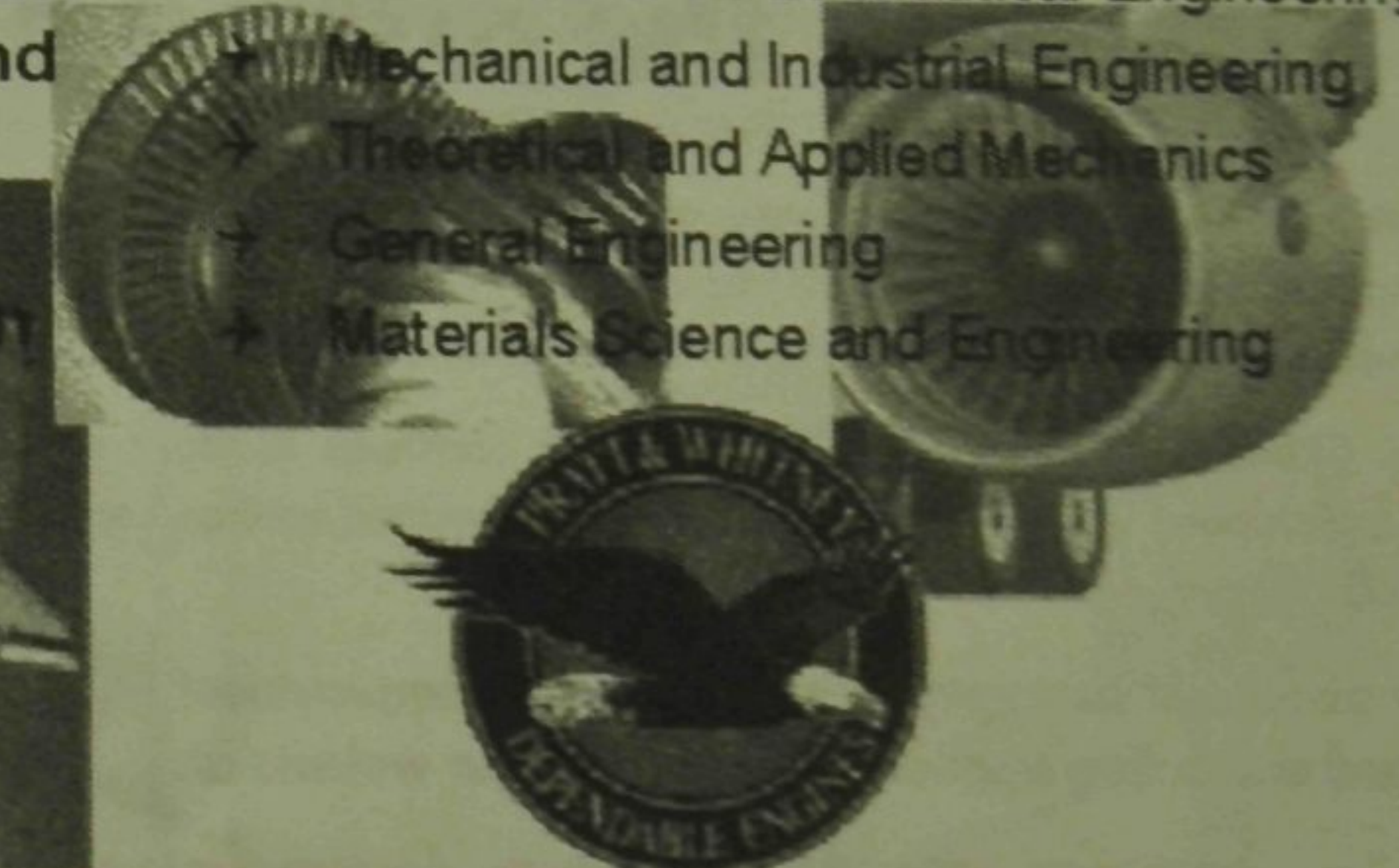
**Pratt & Whitney**  
A United Technologies Company

## Pratt &amp; Whitney

Pratt & Whitney is a leader in the design, manufacture, and support of dependable engines for commercial, military and general aviation and space propulsion.

www.prattwhitney.com

- Aeronautical & Astronautical Engineering
- Mechanical and Industrial Engineering
- Theoretical and Applied Mechanics
- General Engineering
- Materials Science and Engineering



Visit us at the EOH Entertainment Tent or see our booth in the Met & Min building, March 5 & 6.



**Pratt & Whitney**

A United Technologies Company



## LOOMIS LAB

continued

## Neutronics Demonstration ♦

Martin Neumann and Dan Forsyth, American Nuclear Society (ANS)  
East-west hallway at the north end of Loomis Lab

This project illustrates the basics of neutron interaction within a nuclear reactor through the use of an interactive demonstration.

Nuclear Engineering

## Nuclear Propulsion: Getting More Miles Per Gallon ♦

Blair P. Bromley, Illini Space Development Society (ISDS), and American Nuclear Society (ANS)  
Northwest side of Loomis Lab near Room 151

This project describes the various types of nuclear propulsion systems that can be used for space exploration and development. The advantages of nuclear propulsion systems over conventional chemical propulsion systems are that they are more reliable and economical and require less propellant for a given space mission.

Nuclear Engineering, Rocket Propulsion Engineering

## Physics Machine ♦♦

Physics Society  
Lobby

A Rube-Goldberg machine that makes a sandwich in a complicated manner while demonstrating physics principles. It's solely a demo. There will be explanations of how the machine works before each demonstration.

Physics

## Plasma Speakers ♦♦

Nick Pederson, American Nuclear Society (ANS)  
East-west hallway at the north end of Loomis Lab

This project utilizes a high-temperature plasma as an acoustic speaker. By running an audio signal through a step-up transformer and into the flame of a butane torch, a gaseous membrane will form acting as a speaker diaphragm.

Nuclear Engineering and Plasma Physics

## Spacecraft Model Building ♦

Illini Space Development Society (ISDS)  
Lobby

Spacecraft Model Building is a hands-on exhibit in which people are invited to use the provided materials to construct model spaceships. Society members are on hand to assist the children in their construction extravaganza.

Aeronautical Engineering

## Space Nuclear Propulsion ♦

Illini Space Development Society (ISDS)  
Lobby

This exhibit is a display that explains the principles of nuclear propulsion and its advantages. It's geared primarily towards high school students and members of the general public.

Nuclear Engineering

## Tesla Coil ♦

Society of Inventors  
Loomis Lab

A Tesla coil is a transformer capable of creating very high voltages. This particular coil is capable of producing a four-foot lightning discharge.

Physics, Electrical Engineering, and Mechanical Engineering

## Undergraduate Research Projects ♦

Physics Society  
Room 143

See some of the research being performed by undergraduates at the U of I. High school students and other undergraduates can get an idea of what's out there and how to get involved.

Physics

MECHANICAL  
ENGINEERING BUILDING

## Building Something Out of Nothing ♦

American Society of Mechanical Engineers (ASME)  
Room 135

Many times engineers have to think on their feet to solve a problem in a short period of time. Here kids can use their own engineering skills to build the tallest structure out of common household items. Prizes will be awarded for the winners.

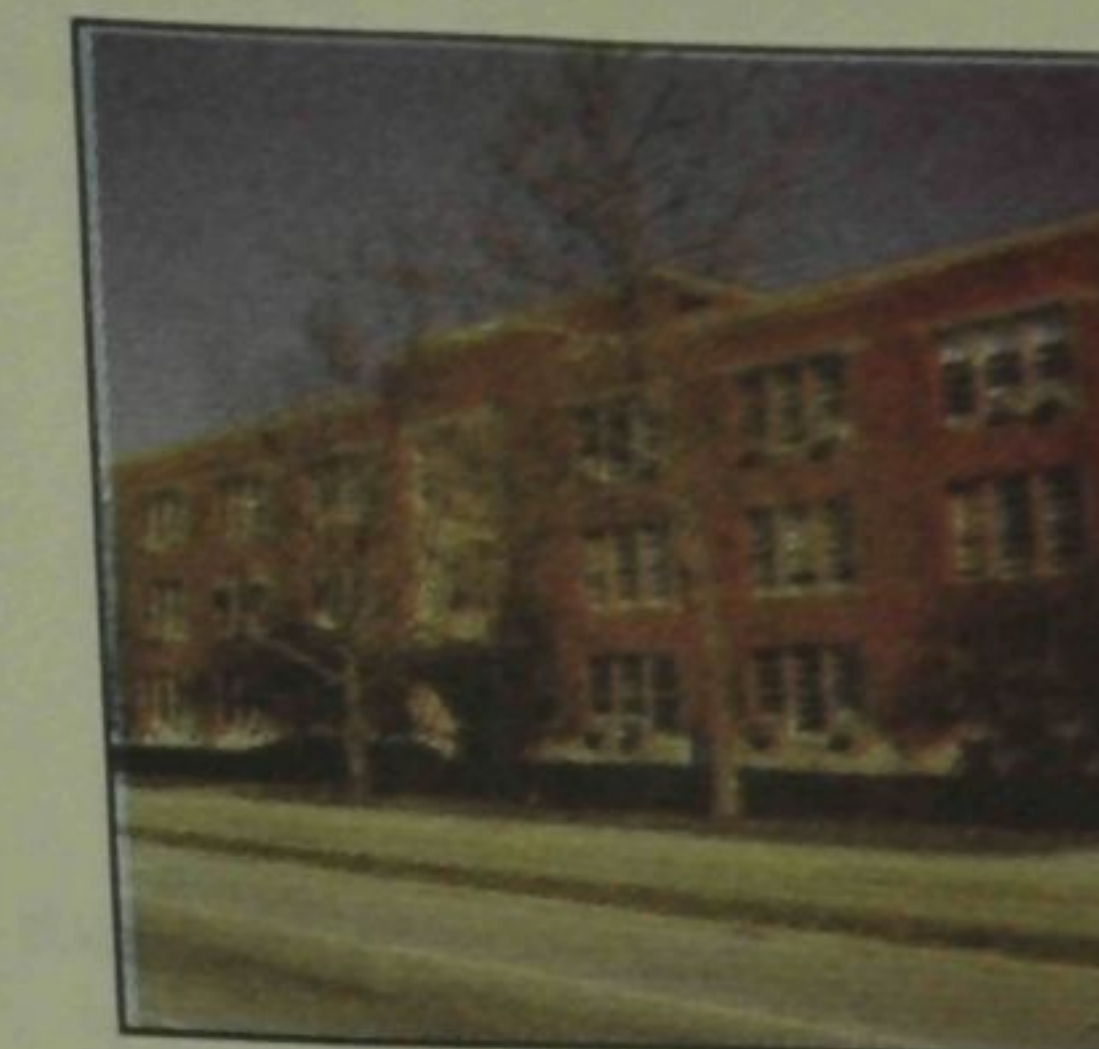
Mechanical Engineering

## Cars of the Future (What do you think?) ♦♦

UIUC FutureCar Challenge Team  
Room 101

The FutureCar Challenge is a national collegiate design competition sponsored by the US Department of Energy and the US Council for Automotive Research to develop and demonstrate advanced, fuel-efficient vehicles with up to three times the fuel efficiency of today's cars.

Multidisciplinary



MECHANICAL ENGINEERING BUILDING

Location: 1206 W. Green  
Urbana

Map Code: G

The Mechanical Engineering Building is the home of the Department of Mechanical and Industrial Engineering.

# DON'T GET A JOB!

Get a career on the cutting edge!

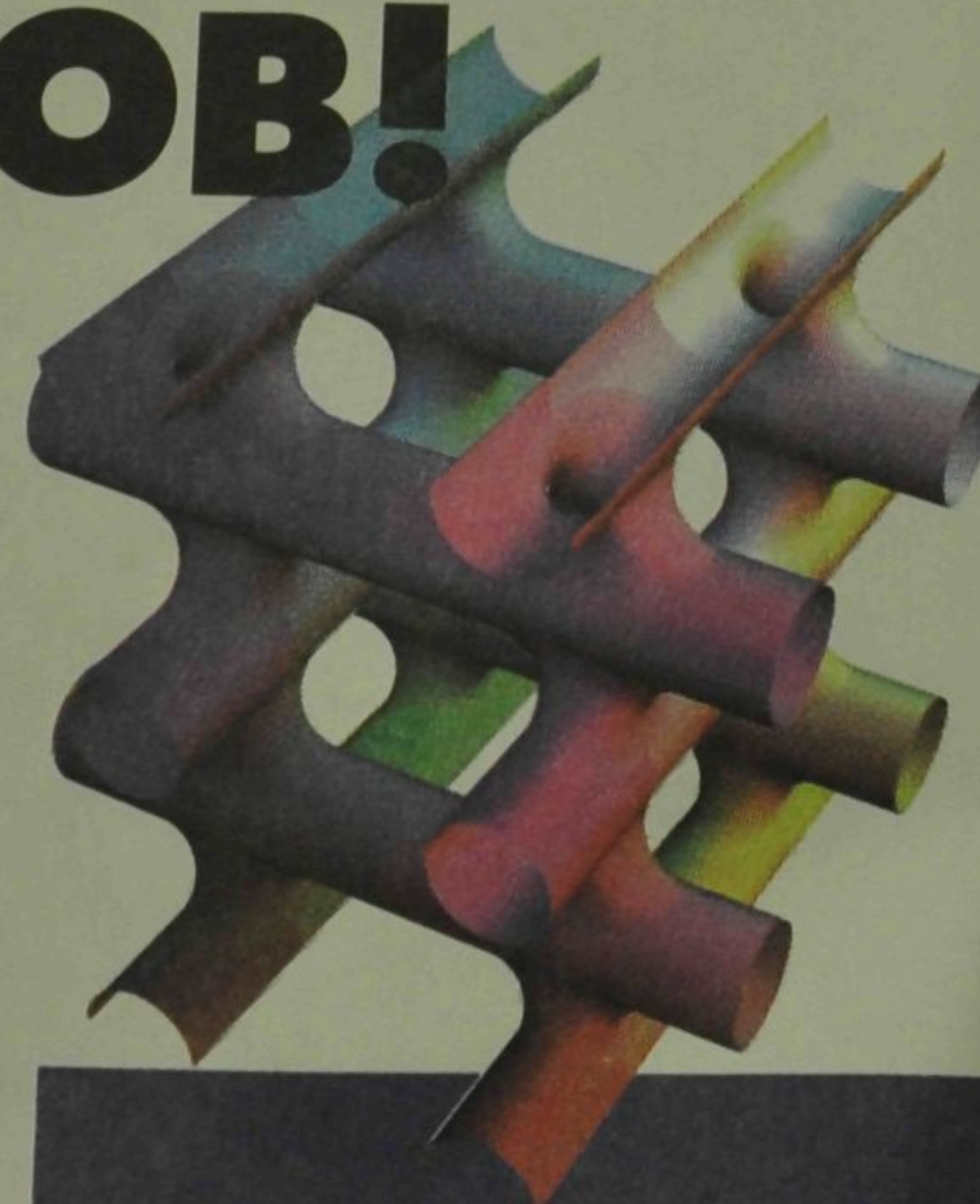
Turn your education into your professional future at Wolfram Research, Inc., the world's leading developer of technical computing software including Mathematica®. We are looking for creative people to join our research and development, marketing, and design teams for a full-time position or summer internships.

Headquartered in Champaign, Illinois, Wolfram Research continues its rapid expansion with offices in the United Kingdom and Japan. We provide a high-tech and dynamic environment plus excellent benefits and compensation packages.

For information about our company, our current list of employment opportunities, and our online application form, visit our website at:

[www.wolfram.com/opportunities](http://www.wolfram.com/opportunities)

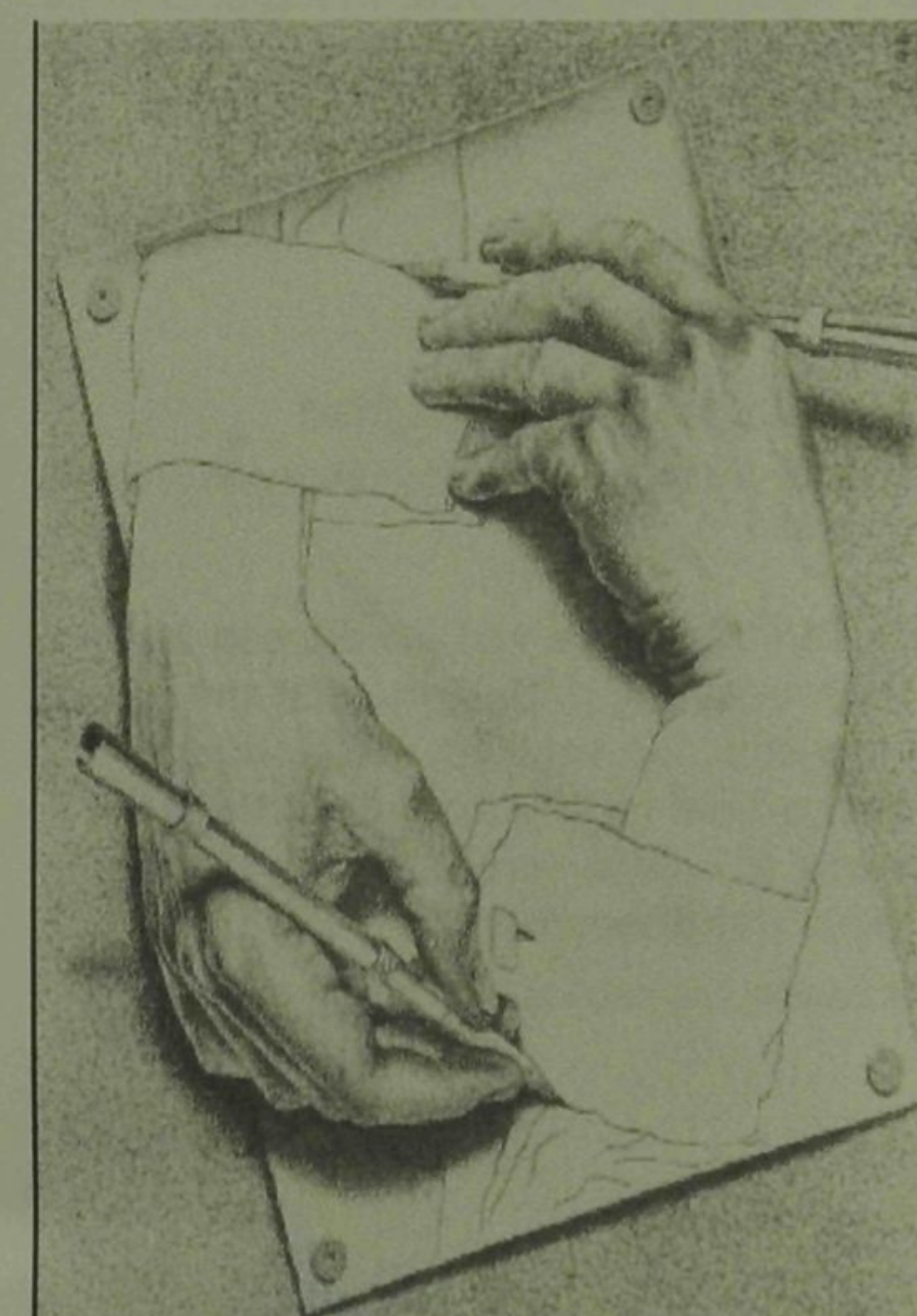
If you are unable to access the internet, contact:  
Barb Taub, Director of Human Resources  
Wolfram Research, Inc., 100 Trade Center Drive,  
Champaign, IL 61820; fax: 217-398-0747



**WOLFRAM  
RESEARCH**

STANDARDS IN ADVANCED COMPUTING

WOLFRAM RESEARCH IS PROUD TO SPONSOR U of I ENGINEERING OPEN HOUSE  
Please visit us **March 5-6** at David Kinley Hall or at [www.eoh.cen.uiuc.edu/](http://www.eoh.cen.uiuc.edu/)



"Drawing Hands" M.C. Escher

Lincoln Square, Urbana 328-2254

## \* Art Prints

## \* Posters

\* Rush  
Service

## \* Pottery

## \* Jewelry

## \* Chimes

## \* Candles

## \* Incense

INTERNATIONAL  
GALLERIES  
**IG**

## Remodeling Sale

SAVINGS UP TO 50%

All in stock drum sets 35-50% off  
Remo & Evans heads 35-50% off  
All hardware 35-50% off



Drum Shop 29 Main St  
Champaign, IL 61820  
(217) 352-DRUM



## MECHANICAL ENGINEERING BUILDING

*continued*

### Cutting-Edge Technology: Industrial Engineering at Work

IIE, Alpha Pi Mu and Vector Marketing/Cutco  
Cutlery  
Room 153

Industrial Engineering is the study of such things as products, and product control, ergonomics, and quality control. We plan on displaying how minute differences in product composure and constitution affect usage and overall consumer satisfaction with a fun twist of "kid-stuff."

*Industrial Engineering*

### Excalibur

Dan Konrad and Jayson Valluzzi  
Room 135

Excalibur is a computer-aided design and manufacturing system that fabricates low-complexity circuit boards.

*Computer Science and Mechanical Engineering*

### Fun with Fins

Pi Tau Sigma (PTS) Mechanical Engineering Honor  
Society  
Room 135

Run your own experiments to observe the effects of changing conditions on the amount of heat transfer from finned surfaces in a vertical wind tunnel.

*Mechanical Engineering*

### GRAINGER LIBRARY EXPOSED!

American Society of Heating, Refrigeration and Air-  
Conditioning Engineers (ASHRAE)  
Room 135

A hands-on approach to modern building environmental systems. Using an interactive scaled model of Grainger Engineering Library, the traditionally hidden ducting is exposed. The model allows the user to adjust and optimize the duct dampers to accommodate variable floor temperatures.

*Mechanical Engineering and HVAC*

### Mini Formula Racecars

Society of Automotive Engineers (SAE) Formula  
Rooms 101 and 102

Formula-style race cars for the weekend autocrosser will be on display. The racecars are student conceived, designed and fabricated.

*Mechanical, Electrical, General, and Civil  
Engineering*

### Paper Airplane Efficiency

IIE and Alpha Pi Mu  
Room 153

An important part of manufacturing is efficiency: to get the most out of the smallest amount of time and money. We are looking at the efficiency of "manufacturing" paper airplanes. Students will have the opportunity to choose the materials, design, and production for a paper airplane in order to achieve the maximum efficiency. Efficiency will be measured by distance traveled and accuracy. Rewards will be given for efficient airplanes.

*Industrial Engineering*

### Portable Touch Type Keyboard

Society of Women Engineers (SWE)  
Room 153

This project is to design a portable, touch-type keyboard that can be connected to a Personal Digital Assistant (PDA). The hinged keyboard will be large enough for easy text entry but will fold to a compact size for portability.

*Mechanical, Industrial, and Computer Engineering*

### Pinewood Derby Race

Society of Automotive Engineers (SAE)  
Room 101

Bring your old pinewood derby cars or build them on the spot and race them against other cars in your race class. Prizes will be awarded for best times.

*Mechanical, Electrical, and General Engineering*

### SimSomething...Simulation as an engineering tool

IIE  
Room 153

Simulation is a powerful engineering tool and predictor. We're showcasing a few uses (ever play SimCity?) of simulation, as well as giving people a chance to try there luck at simulation (and compete with friends).

*Industrial Engineering*

### SWE EOH Breakfast

Society of Women Engineers (SWE)  
Room 153

Stop by the SWE breakfast to learn more about the activities and opportunities available to you through SWE in Champaign-Urbana. Grab some free food too! All are welcome. This event runs from 8-11 am on Friday

### Telephone Technology

Society of Women Engineers (SWE)  
Room 153

The invention of the telephone changed lives and continual improvements to this technology make communication easier. We've examined the changes to the telephone and created a home device for routing calls.

*Computer Science, Electrical and Computer  
Engineering*

### University of Illinois Sunrayce Solar Racing team

James Liao  
Mechanical Engineering Building

The future of automobile belongs to these sophisticated, non-polluting, and efficient solar vehicles. Photon Torpedo is the basis of our next vehicle (to be named) that will race against the best auto manufacturer in the world and against the harsh condition of Australia desert in 2001 World Solar Challenge.

*Multidisciplinary*

### Visible Stirling Engine

American Society of Mechanical Engineers (ASME)  
Room 135

The Stirling Engine was introduced in 1816 and is regaining popularity with the push of low emission vehicles. This project shows a brief history from its birth to the present as well as visible models to help explain the phenomenon.

*Mechanical Engineering*

EOH 1999

MILLENNIUM  
of  
INNOVATION

## METALLURGY & MINING BUILDING

### Advances in Power: Solar Cells

University of Illinois Material's Society (UIMS)  
Metallurgy and Mining Building

Since fossil fuels supplies are beginning to dwindle and also produce environmentally damaging gases, a new source of power production is a must. The unique ability of solar cells to harness the power of the sun offers a promising alternative. Since the sun always rises, a highly efficient solar cell would be a welcome relief.

*Materials Science and Engineering and Electrical  
Engineering*

### Advances in Sporting Goods:

University of Illinois Material's Society (UIMS)  
Metallurgy and Mining Building

Better materials can be made to increase performance, provide safety, and prolong the careers of many athletes. It is a goal of materials scientist to take athletics to a higher level by improving existing materials, and creating new materials for the athletes of tomorrow.

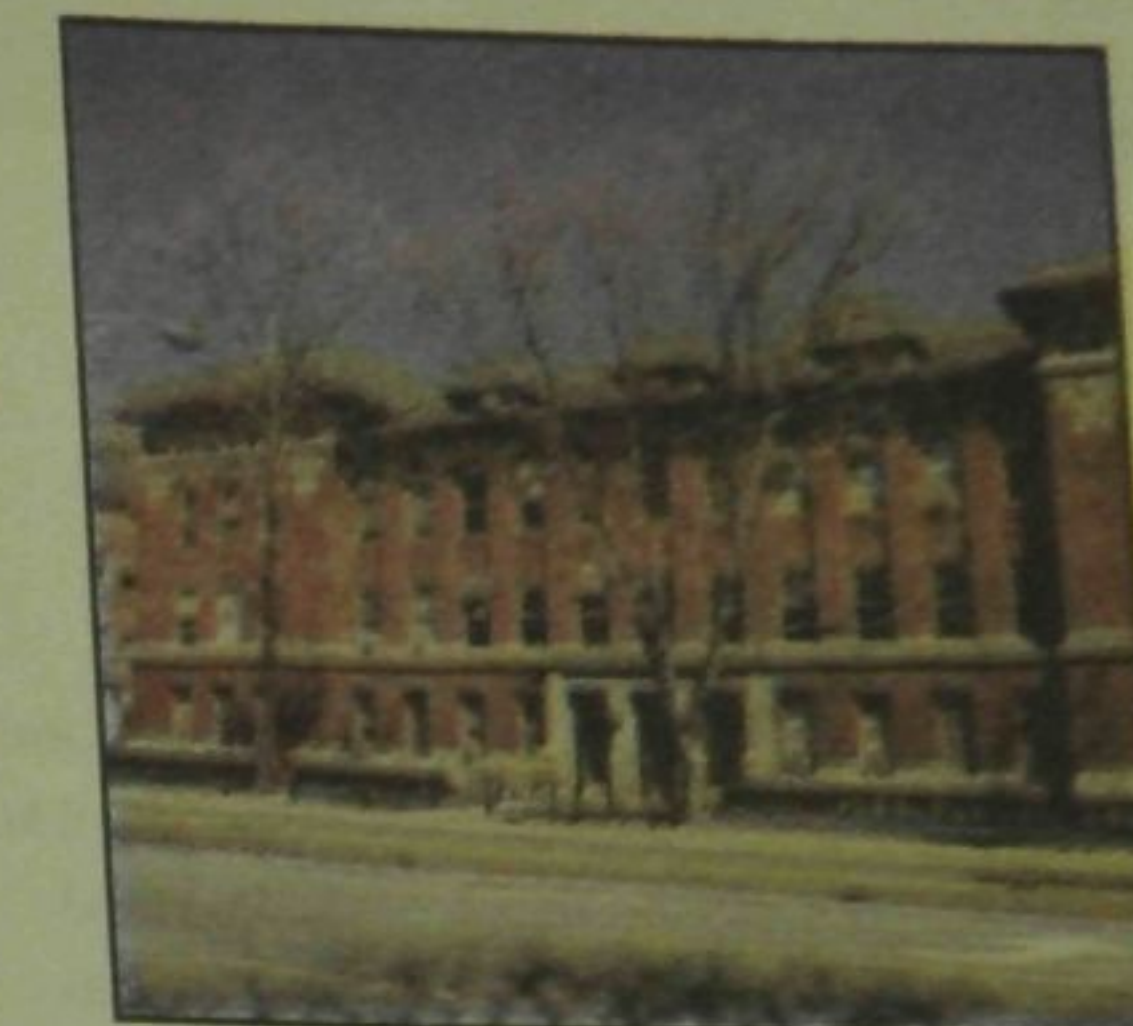
*Materials Science and Engineering*

### Aerogel - Cutting edge insulation

University of Illinois Material's Society (UIMS)  
Metallurgy and Mining Building

What's lighter than a feather, yet can hold up a car? What holds the WORLD RECORD for the least dense solid? What is used in walls in blankets and catches star-dust? AEROGEL! AEROGEL! AEROGEL! Catch it if you can!!!

*Materials Science and Engineering*

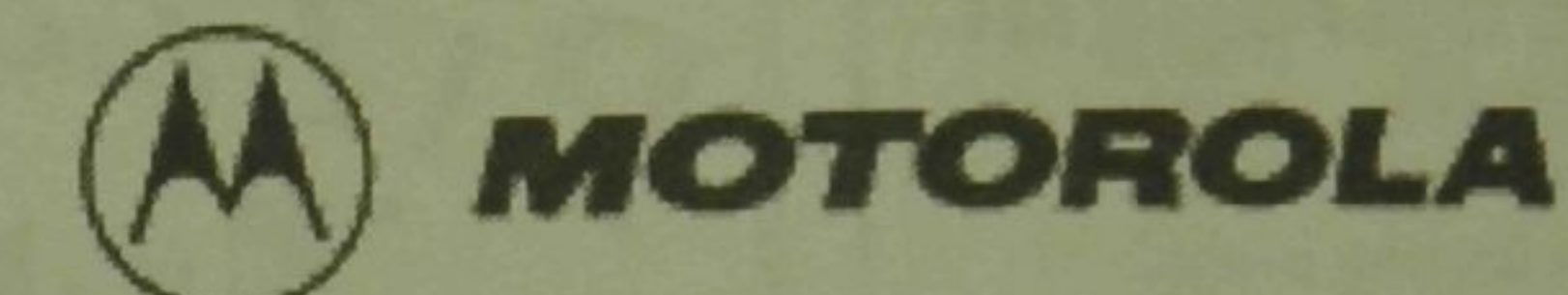


METALLURGY & MINING BUILDING

Location: 1304 W. Green  
Urbana

Map Code: H

The Metallurgy and Mining Building  
has labs and offices for the  
Department of Materials Science and  
Engineering.



Motorola is one of the world's leading providers of wireless communications, semiconductors and advanced electronic systems, components and services. Major equipment business include cellular telephone, two-way radio, paging and data communications, personal communications, automotive, defense and space electronics and computers. Motorola semiconductors power communication devices, computers and millions of other products. Motorola sales rose to \$29.4 billion in 1997.



## METALLURGY & MINING BUILDING

*continued*

### Biomaterials ♦

University of Illinois Material's Society (UIMS)  
Metallurgy and Mining Building

Throughout history, biomaterials have been described as any type of material in contact with the human tissue in order to permanently or temporarily improve a physical condition. Come and discover the myriad of biomaterials that have been developed from the brutally primitive to the ultramodern.

*Materials Science and Engineering*

### Blast Furnace ♦

University of Illinois Material's Society (UIMS)  
Metallurgy and Mining Building

Come and learn how basic materials are transformed into useful element metal using high temperature furnaces and a variety of chemical reactions.

*Materials Science and Engineering*

### Ceramic Coasters ♦♦

Keramos  
Metallurgy and Mining Building

Many ceramic materials are produced every year by a variety of processes. Some common products are electronic circuit boards, turbine blades, and even the dishes in your cabinet! Come see us and learn how ceramic coasters are made and take one home with you.

*Materials Science and Engineering*

### Fun with Transistors ♦

University of Illinois Material's Society (UIMS)  
Metallurgy and Mining Building

Ever wonder how the digital world of today runs? It all depends on the transistor, the most important invention of the century. Come see a hands on model and learn how the little buggers inside your PC work. Brought to you by the Materials Science and Engineering Department and the letter 'T'.

*Materials Science and Engineering and Electrical Engineering*

### Materials Show ♦♦

University of Illinois Material's Society (UIMS)  
Metallurgy and Mining Building

Rated as one of 1998's best EOH exhibits. See students in Materials Science showcase the many areas their field. Last year James Bond defeated Dr. Evil with his superior knowledge of materials. What will happen this year? It's up to you to find out. Guaranteed to be a blast and always involved audience participation.

*Materials Science and Engineering*

### Shape Memory Alloys ♦

University of Illinois Material's Society (UIMS)  
Metallurgy and Mining Building

When the frames on your glasses are bent, many times you are out of luck. That problem is a thing of the past when you consider shape memory alloys. Get a peak of one of the hottest new fields in Materials Science.

*Materials Science and Engineering*

EOH 1999

MILLENNIUM  
of  
INNOVATION

## NEWMARK LAB

### ASCE: Passport to the 21st Century

American Society of Civil Engineers (ASCE)  
Crane Bay

This exhibit shows how the AMERICAN SOCIETY OF CIVIL ENGINEERS helps its members prepare for the engineering profession.

*Civil Engineering*

### Boston's Big Dig

Institute of Transportation Engineers (ITE)  
Crane Bay

This project will highlight some of the issues from a huge transportation improvement project near downtown Boston. I-93 through Boston, also known as the Central Artery, has been a major source of congestion in Boston from the past 50 years. An improvement project is currently under way to fix many of these problems. We will look at both the systems and facilities operation of this project and its potential impact on metropolitan Boston.

*Multidisciplinary*

### Civ-E's and E-Q's

American Society of Civil Engineers (ASCE)  
Crane Bay

EARTHQUAKES are a major concern for many disciplines within Civil Engineering. This project will explore the structural, geotechnical, and environmental effects of earthquakes, and the role civil engineers play both before and after their occurrence.

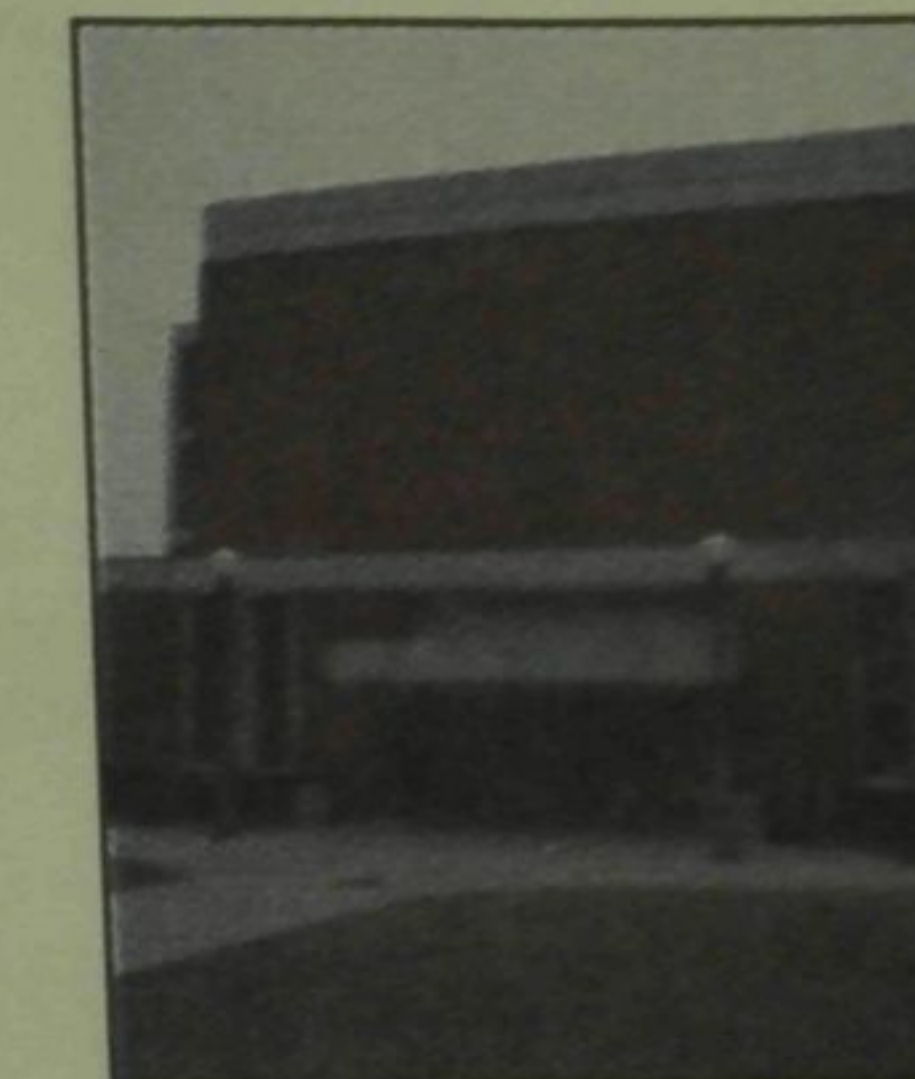
*Civil Engineering*

### The Concrete Canoe Project

American Society of Civil Engineers (ASCE)  
Crane Bay

Who would have thought; floating concrete! Come witness this engineering marvel and see the latest edition of the concrete canoe. The CONCRETE CANOE is an intercollegiate engineering competition.

*Civil Engineering*



NEWMARK LAB

Location: 205 N. Mathews  
Urbana

Map Code: J

The Newmark Civil Engineering Building is home to the Civil Engineering Department.

## FEATURED MENU ITEM Try Our Seafood Three Delight

This healthy seafood dish is chocked full of fresh and healthy ingredients.

Chef Lau Wai takes fresh jumbo shrimp, scallops and squid

(or sliced fish, if you prefer), and stir-fries it with three

different kinds of mushrooms, snow

peas, carrots, celery, and

bamboo shoots. Flavored with

ginger, garlic and scallions, and

topped with a white

sauce, this light dish is good for those who are

concerned about their diets.

Come visit Peking Garden and sample the best Chinese food in Champaign-Urbana.



北京園

Peking Garden

Over 200 items to choose from the menu.  
Daily lunch specials start from \$3.95

• Dine-In • Carry Out • Full Bar  
206 N. Randolph • Champaign  
Open 11am-10pm 365 days a year  
355-8888

## Pizza Garden "My pizza place"

Pizza Garden is for you if you are really hungry:

'A whole large pizza will be gone in a gulp.' Come for the All-U-Can-Eat Buffet.

Pizza Garden is for the ones who are not that

hungry: 'Just a piece will do.' Go with the \$1.00/slice; or personal pizza (only \$2.00 & up)

Pizza Garden is for those who are health conscious:

The garden fresh salad is always available; or a bowl of hot soup, chicken noodle or chili.

Pizza Garden is for everyone and the whole

family: A lot of food. A lot of fun. Come in, join the crowd and see the many sides of Pizza Garden. We create happy memories.

Birthday parties, Family reunions, Graduation, Wedding rehearsals, etc. Group meeting meetings and sport teams welcome.

Call 356-3333 to reserve your next party.  
1503 Lyndhurst Alley (in front of Savoy 16 Theaters)

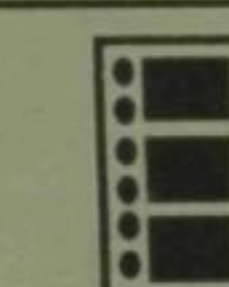
The Music Shoppe's  
**PRO-SOUND  
CENTER**

Champaign/Urbana's One-Stop Music Store

Yamaha, Selmer/Bach, Pearl, DW, Fender, Tacoma, Mesa Boogie, Eden, Roland, EV, Bose, Rane, Spirit/Folio, Event... and many others!

Digital and Analog Recorders

114 S. Neil, Champaign  
217-356-8005 ♦ 800-842-0035



**SAVOY 16**

Route 45 & Burwash Ave.  
Just minutes away from U of I!

355-9475

**\$4.50 Before 6pm \$6.00 After 6pm**  
**weekdays**

Late Shows Friday & Saturday Night  
Free Drink Refills 25-Cent Popcorn Refills

Featuring State of the Art Digital Sound!

Bring In This Ad And Receive  
**ONE FREE 46oz Popcorn!**

(measured by volume not weight)  
Offer expires 6/1/99

New Stadium  
Seating!



www.gqi.com



**NEWMARK LAB***continued***Concrete Cylinder Smash** ♦♦*Associated General Contractors (AGC)  
Crane Bay*

AGC is bringing back the CONCRETE CYLINDER SMASH for EOH. Brace yourself and get ready to watch some smashing. Multidisciplinary

**Quicksand***American Society of Civil Engineers (ASCE)  
Crane Bay*

The biggest fear that most adventurers have when exploring new territory is the dreaded quicksand. Now you will have a chance to test quicksand under safe conditions.

*Civil Engineering***The Steel Bridge Project***American Society of Civil Engineers (ASCE)  
Crane Bay*

The STEEL BRIDGE is an intercollegiate structural engineering competition. It is a design of a model span, structural steel bridge that will be judged on engineering criteria. Learn all about the project and behold this year's design.

*Civil Engineering***ROGER ADAMS LAB****Chemistry for Kids** ♦*National Organization of Black Chemists and Chemical Engineers (NOBCChE)  
Room 8*

This exhibit shows children the simplicity of chemistry. Experiments performed in this display show how fun and easy chemistry is. Children will learn that one does not need major chemicals to learn and explore chemistry. Come stimulate your mind and have fun!

*Chemical Sciences***NOBCChE - Bubble Gum Production** ♦*National Organization of Black Chemists and Chemical Engineers (NOBCChE)  
Room 8*

Bubble gum production illustrates flow and pump process systems. The gum is produced from "scratch". This exhibit is so great, because it shows how chemical engineering influences the little things in life. Please stop by to learn more about that sticky stuff your mouth loves so much!

*Chemical Engineering***MILLENNIUM  
OF  
INNOVATION  
Chemical Kinetics** ♦*American Institute of Chemical Engineers (AIChE)  
Roger Adams Lab*

This project illustrates the concepts of kinetics through colorful reactions of dye and bleach. Changing colors of the reaction will show how varying the temperature and concentration can affect the rate of reaction.

*Chemical Engineering***Coriolis Flowmeter Technology** ♦*American Institute of Chemical Engineers (AIChE)  
Roger Adams Lab*

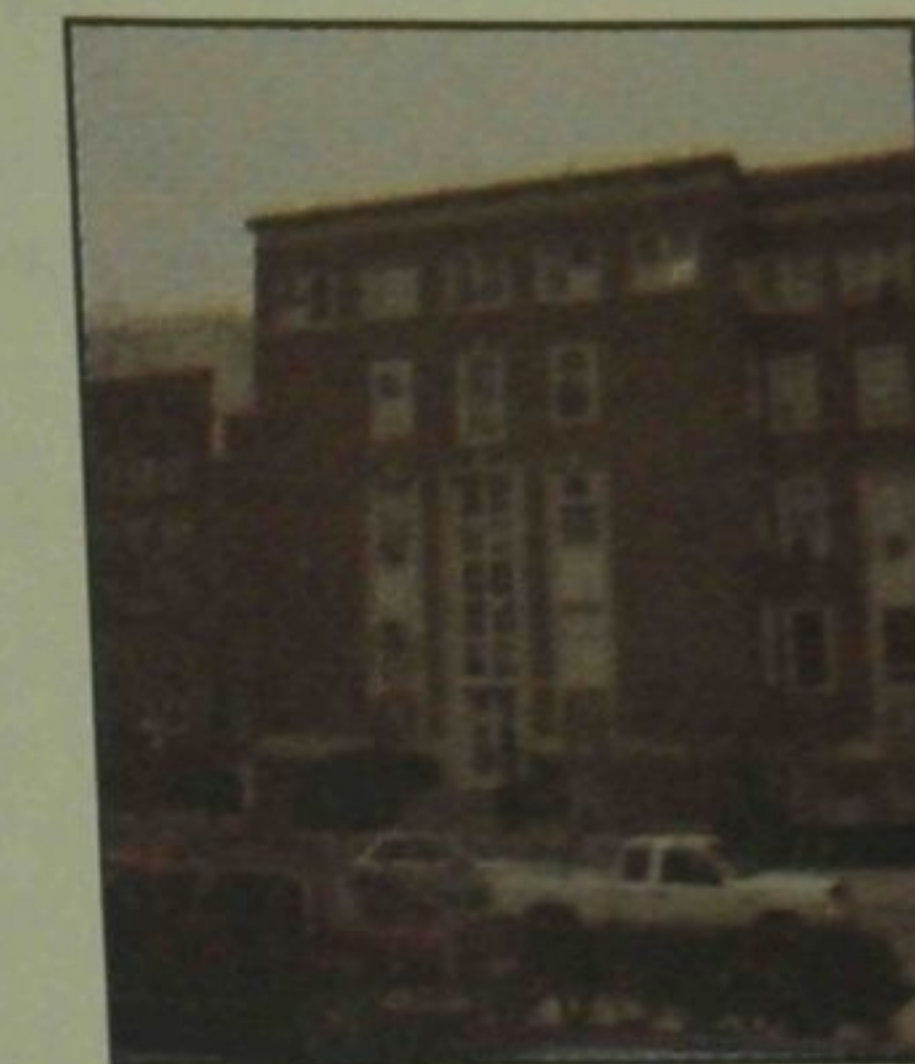
This project showcases Coriolis Flowmeter Technology, a relatively new method of direct mass flow measurement. Applications of the technology are shown and a historical synopsis of how flow measurement has improved over time is given.

*Chemical Engineering***Does Size Really Matter? A Two-Fold Look at Process Engineering** ♦*American Institute of Chemical Engineers (AIChE)  
Roger Adams Lab*

This project will explore the differences between process engineering in a plant and in a laboratory. Live demonstrations will underscore the advantages and disadvantages involved in each situation.

*Chemical Engineering***The Effects of Surfactants in Everyday Life** ♦♦*American Institute of Chemical Engineers (AIChE)  
Roger Adams Lab*

This project illustrates the exceptional cleaning power of surfactants by describing and demonstrating how the structure of surfactants allows them to eliminate unwanted oil and dirt.

*Chemical Engineering***ROGER ADAMS LAB**

**Location:** 600 S. Mathews  
Urbana

**Map Code:** N

Roger Adams Laboratory is home to the Department of Chemical Engineering.

**Welcome Engineers**

*This weekend,  
get around town on the  
Best Little Transit System.*

*Board the 21, 22, & 23  
routes all day Friday.*

CHAMPAIGN-URBANA



Mass Transit District

**384-8188****BREAKFAST SPECIAL \$2.75**

- ♦ Monday thru Friday 6-11am
- Choose from Two Eggs, Sausage and Two
- ♦ Pancakes or Toast Three Pancakes, Sausage
- ♦ Two Eggs, American Fries, Toast
- Sausage Omelet, American Fries, Toast

Ham Dinner \$3.95  
Turkey Dinner \$4.25  
Grilled Pork Chops \$4.25  
Shrimp Dinner \$4.25

**TaffieS**  
Restaurant

COUNTRY FAIR 301 South Mattis Champaign 359-4201  
Feel Lucky? We Sell Illinois Lottery Tickets!



**White Horse Inn**  
*would like to  
welcome  
all the future  
Illini engineers!*

2nd and Green • 352-5945

*Saturday 10¢ 1-5 pm*

**Buffalo Wings**

*Saturday \$4.95 5-10 pm*

**All You Can Eat  
Breaded Walleye**

**Great Drink Specials**





## ROGER ADAMS LAB

*continued*

### Fat-Free or Full of Flavor? ♦

American Institute of Chemical Engineers (AIChE)  
Roger Adams Lab

Have you ever wondered why fat-free cheese tastes so different from full-fat cheese? By demonstrating the basic chemistry involved, we will show you that the answer is simpler than you think.

Chemical Engineering

### FIT Fruit Wash: A Completely Organic Experience! ♦♦

American Institute of Chemical Engineers (AIChE)  
Roger Adams Lab

This project focuses on the product research side of chemical engineering. See how a completely organic product can quickly and easily remove harmful pesticides from fruits and vegetables. Come see and TASTE the dramatic results.

Chemical and Environmental Engineering

### Fluid Fun ♦♦

American Institute of Chemical Engineers (AIChE)  
Roger Adams Lab

A fluid is essentially a gas or liquid. This project will provide both entertainment and education about fluid mechanics by taking advantage of fluid properties in exciting demonstrations.

Chemical Engineering

### From Fields to Fuel ♦

American Institute of Chemical Engineers (AIChE)  
Roger Adams Lab

Come see the exciting process of turning corn into fuel suitable for running your car. Who knew that the same material found in corn and beer could be so useful?

Chemical Engineering

### Fun with Chemistry ♦♦

American Institute of Chemical Engineers (AIChE)  
Roger Adams Lab

This perennial favorite will feature exciting demos and some icky, sticky, foamy, slimy, ooey, gooey fun for all ages!

General Chemistry

### Gasoline Production ♦

American Institute of Chemical Engineers (AIChE)  
Roger Adams Lab

Have you ever wondered about the octane levels of commercial gasoline? This project will demonstrate how gasoline is obtained from crude petroleum refinery and how additives can increase the octane level of the finished product.

Chemical Engineering

### Gogurt: The Portable Yogurt ♦♦

American Institute of Chemical Engineers (AIChE)  
Roger Adams Lab

How do they put the bacteria into yogurt? This is a demonstration of the engineering that goes into making yogurt. Free samples of the new General Mills product called Gogurt are also available.

Chemical Engineering

### How Film Works ♦♦

American Institute of Chemical Engineers (AIChE)  
Roger Adams Lab

This project will discuss how film interprets light to produce an image. Also discussed will be the chemistry of film and developer.

Chemical Engineering

### Plastic Injection Molding ♦♦

American Institute of Chemical Engineers (AIChE)  
Roger Adams Lab

This project explores the use of polymers in plastics production via a common industrial process known as injection molding. Audience members will witness the actual production of keychains, which will be distributed as EOH souvenirs.

Chemical Engineering

### Microelectronic Fabrication in the Chemical Engineering Profession ♦

American Institute of Chemical Engineers (AIChE)  
Roger Adams Lab

This presentation touches on the key steps of semiconductor fabrication. The steps include czochralski growth, ion implantation, rapid thermal processing, etching, and packaging.

Chemical and Electrical Engineering

### NOBCChE No.

### 1 - Perfume Production ♦♦

National Organization of Black Chemists and Chemical Engineers (NOBCChE)  
Room 8

Perfume production demonstrates a process known as distillation. Questions such as, "How does the scent from a rose get into a bottle of Chanel No. 5?" and most importantly, "What exactly is this process called distillation?" will be answered. Stop by and sample the scent of NOBCChE - NOBCChE No. 1!

Chemical Engineering

### Pressure ♦♦

American Institute of Chemical Engineers (AIChE)  
Roger Adams Lab

Pressure is an invisible force responsible for many everyday phenomena. Without the pressure force, we couldn't breathe, airplanes wouldn't fly, and weather systems wouldn't move. Come see several fun demos of this ubiquitous but exotic force.

Chemical Engineering

### Refrigeration Display ♦♦

National Organization of Black Chemists and Chemical Engineers (NOBCChE)  
Room 8

The air conditioner makes summers bearable, and the refrigerator gives JELLO its jiggle. These two appliances have in common a process known as refrigeration — a process patented by an African American scientist. Find out more about the man and the process!

Chemical Engineering

### Soda-Pop Production ♦♦

American Institute of Chemical Engineers (AIChE)  
Roger Adams Lab

Come taste soda-pop made on the spot using the important chemical engineering principle of column absorption.

Chemical Engineering

### Wafer Fabrication ♦

American Institute of Chemical Engineers (AIChE)  
Roger Adams Lab

Semiconductors run everything from computers to cars. The fabrication process rests solely on the shoulders of basic chemical engineering principles. This project will demonstrate two primary processes that are used to build integrated circuit devices.

Chemical Engineering

EOH 1999

MILLENNIUM  
of  
INNOVATION

## TALBOT LAB

### AIAA R/C Aircraft Design/Build/Fly Competition ♦♦

American Institute of Aeronautics and Astronautics (AIAA)  
Room 9

A remote control airplane designed and built to carry several liters of water. This is for a national competition that takes place in April and is participated by various universities across the country.

Aerospace Engineering

### Car Crusher ♦♦

Society for Experimental Mechanics (SEM)  
Crane bay

Bear witness to the awesome destructive power of Talbot Lab's three story, three million pound load frame. Cars will die.

Experimental Mechanics

### Cetan "Hawk Spirit": Human-Powered Hydrofoil ♦♦

Society for the Advancement of Material and Process Engineering (SAMPE), American Institute of Aeronautics and Astronautics (AIAA)  
Room 5

The quest for speed is a driving force behind many technological advances. This project presents the design and fabrication process for our watercraft as it relates to our pursuit of the world water-speed record.

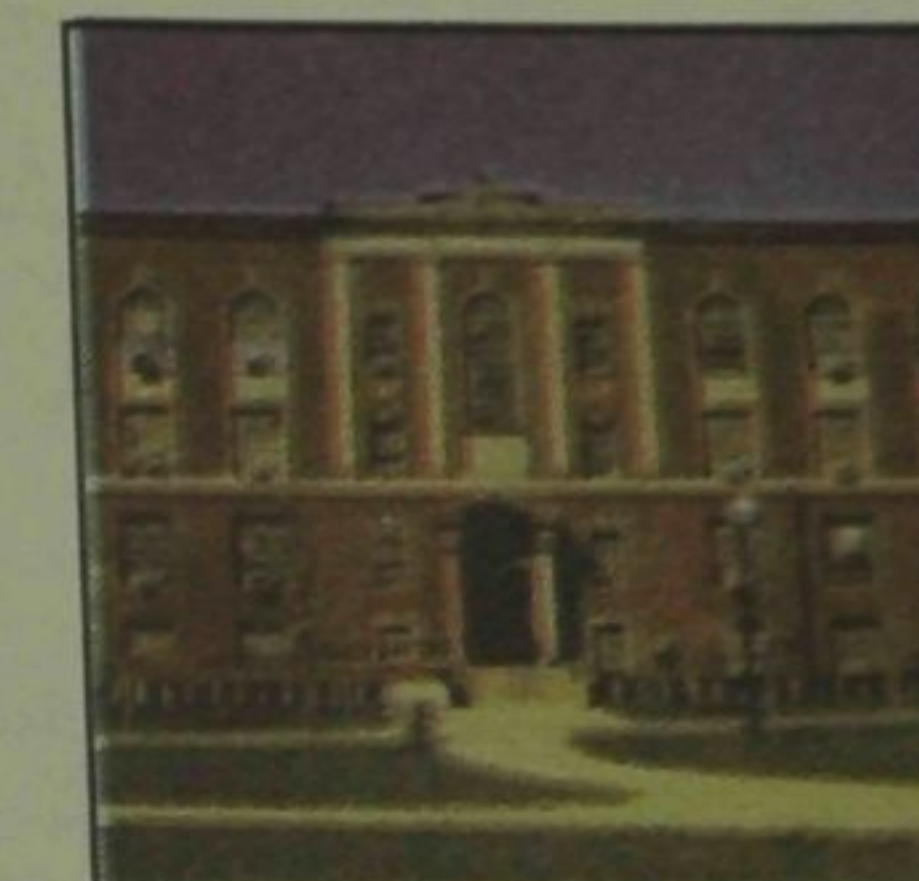
Aerospace Engineering and Material Science

### "The Dream is Alive" ♦♦

American Institute of Aeronautics and Astronautics (AIAA)  
Room 104

The NASA film "The Dream is Alive" details the workings of NASA's Space Shuttle program, and follows the astronauts during an actual mission. It features spectacular video footage of space, and narration by Walter Kronkite.

Aerospace Engineering



TALBOT LAB

Location: 104 S. Wright  
Urbana

Map Code: P

Talbot Laboratory houses the Department of Aeronautical and Astronautical Engineering and the Department of Theoretical and Applied Mechanics.

THERE'S MORE TO THE  
WORLD THAN  
DOUBLE-CLICKING!

Study Abroad Office  
115 International Studies Building  
910 South Fifth Street  
Champaign, IL 61820  
Tel: (217) 333-6322  
Fax: (217) 244-0249  
e-mail: sao@uiuc.edu  
<http://www.uiuc.edu/providers/ips/sao>

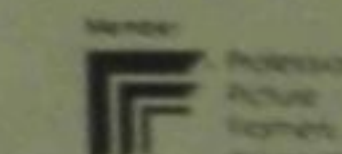
EXPERIENCE!  
STUDY ABROAD

We hang  
around in  
some of the  
best places.

You'll find our work on some of the nicest walls in town. Like yours. That's because we're known for our collection of fine art prints, primitive and outdoor sporting art and, of course, the most beautiful custom framing around.

FRAMER'S MARKET

807 W. Springfield Avenue  
Champaign, IL 61820 351-7020





### The Mechanics of Martial Arts Board Breaking ♦♦

Ryan Giordano, Society for Experimental Mechanics (SEM)  
Talbot Lab

I will present an easy-to-understand analysis of the some mechanics involved in board breaking. In addition to the physics, it will demonstrate how different mathematical models can be used to solve a problem. Hands on activities and breaking demonstrations will be scheduled.

Theoretical and Applied Mechanics

### Race Car Downforce ♦♦

James Liao, Michael Soso  
Room 104

Aerodynamics, specifically downforce, is the single most important element in modern race car development. Carefully managed downforce and minimal drag are the trade secrets behind every winning team. Downforce enables cars to turn in a dime, and regardless of its physics, it still looks like magic.

Aeronautical and Astronautical Engineering

### Soap Bubbles and Films ♦♦

Society for Experimental Mechanics (SEM)  
Room 103

The forces behind the formation of soap bubbles and films revealed. Ample opportunity for children and adults to play.

Theoretical and Applied Mechanics

### TAM TOYS ♦♦

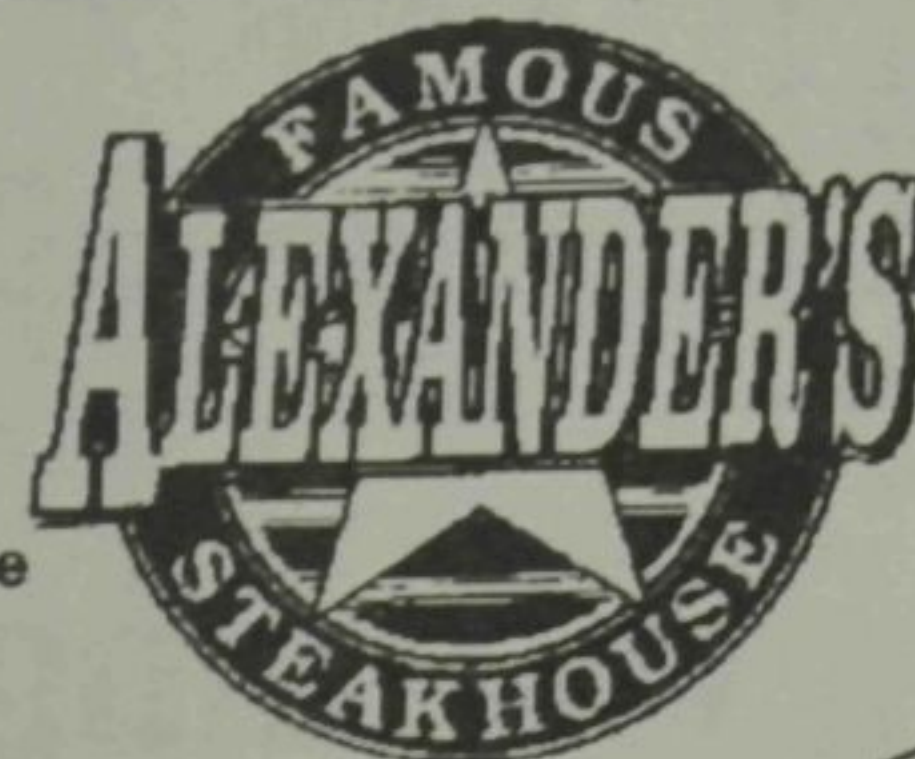
Society for Experimental Mechanics (SEM)  
Room 220

The exhibit demonstrates basic principles of mechanics through the use of physical models. Topics from static, dynamic, and fluid mechanics are covered.

Theoretical and Applied Mechanics

### Steaks Our Specialty

Serving the  
Champaign  
Community Since  
1985



Only \$**6.95**

Student  
Special\*

Special Includes:

8 oz top sirloin or steak  
8 oz pork chop or chicken  
One trip to salad bar, toast, and potato.

Call to reserve our banquet rooms for groups of 20

\* Excludes special event weekends

or more

202 W. Anthony Champaign 359-1789

NOW OPEN AT 4:00 pm DAILY



Want to keep in  
touch with  
U of I  
Engineering?

[www.illinimedia.com/technograph](http://www.illinimedia.com/technograph)

Technograph On-line  
The Engineering magazine  
of the U of I.

It's not what we make.  
It's what  
we make  
possible.

At Caterpillar, we maintain our competitive edge

because we seek out the newest technology

and creatively apply it to make

our customers successful.

We understand innovation and

development of cutting-edge technology

is essential to sustain our position

as the industry leader. We continuously

develop, test, improve

and advance technology.

The potential for success

is endless—for our company,

our people and the progress

we make possible around the world.

**CATERPILLAR**

For more information, visit our Web site at [www.CAT.com](http://www.CAT.com)

© 1998 Caterpillar



# EOH 1999

## Code Building

A	Agricultural Engineering Sciences
B	Beckman Institute
C	Digital Computer Lab
D	Everitt Lab
E	Illini Union
F	Loomis Lab
G	Mechanical Engineering Building
H	Metallurgy & Mining Building
I	Natural History Building
J	Newmark Lab
K	Nuclear Engineering Lab
L	Nuclear Radiation Lab
M	Nuclear Reactor Lab
N	Roger Adams Lab
O	Stock Pavilion
P	Talbot Lab
Q	Transportation Building
X	Kenney Gym (EOH HQ)

